

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Jeffrey E. Russell Examiner #: 62785 Date: 7-2-2003
 Art Unit: 657 Phone Number: 308-3977 Serial Number: PCI 1502/0-1800
 Mail Box and Bldg Room Location: CAT 1012/CA 7801 Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need. *mej*

 Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Compositions And Methods For Promoting Lipid Metabolism, Glycogen Metabolism
 Inventors (please provide full names): B. Schacter, L. Schacter

Earliest Priority Filing Date: 2-7-2003

For Sequence Searches Only Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search the following partial sequence from attached claim 9 in STN:

[LIEVFV][NT][FY][TS][PSTN][GNSDVW][W].

~~Please~~ If not necessary, don't use a length limitation when searching for peptides comprising this fragment.

Thank you.
JER

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Searcher: Shepherd
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 Clerical Prep Time: _____
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Type of Search

NA Sequence (#) _____
 AA Sequence (#) _____
 Structure (#) _____
 Bibliographic _____
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Vendors and cost where applicable

STN _____
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FILE COVERS 1997 - 4 Apr 2003 VOL 133 ISS 15
 FILE LAST UPDATED: 3 Apr 2003 (20030403/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=>
 =>
 => d stat que 111
 L1 479 SEA FILE=REGISTRY ABB=ON PLU=ON [LIVEFY][NT][FY][TS][PSTA][GNS
 DVW][W]/SQSP
 L10 7 SEA FILE=REGISTRY ABB=ON PLU=ON L1 AND SQL=7
 L11 4 SEA FILE=HCAPLUS ABB=ON PLU=ON L10

=>
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=> d ibib abs hitrn 111 1-4

L11 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1999:308112 HCAPLUS
 DOCUMENT NUMBER: 131:88173
 TITLE: The 1,1-Dioxobenz[b]thiophene-2-ylmethyloxycarbonyl
 (Bsmoc) amino-protecting group
 AUTHOR(S): Carpino, Louis A.; Ismail, Mohamed; Truran, George A.;
 Mansour, E. M. E.; Iguchi, Shin; Ionescu, Dumitru;
 El-Faham, Ayman; Riemer, Christoph; Warrass, Ralf
 CORPORATE SOURCE: Department of Chemistry, University of Massachusetts,
 Amherst, MA, 01003-4510, USA
 SOURCE: Journal of Organic Chemistry (1999), 64(12), 4324-4338
 CODEN: JOCEAH; ISSN: 0022-3263
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Full details are presented for use of the Bsmoc amino-protecting group for both solid-phase and rapid continuous soln. syntheses. Application to the latter methodol. represents a significant improvement over the corresponding Fmoc-based method for rapid soln. synthesis due to the opportunity to use water or satd. sodium chloride soln. rather than an acidic phosphate buffer to remove all byproducts, with consequent cleaner phase sepn. and higher yields of the growing peptide. Comparison of the Bsmoc and Bspoc (Bspoc = 2-tert-butylsulfonyl-2-propenoxycarbonyl) functions showed that the former, because of steric hindrance, does not

suffer from the competitive or premature deblocking obsd. with the Bspoc system. Because of its incorporation of a styrene chromophore, resin loading of Bsmoc amino acids could be followed as has previously been shown for the Fmoc analogs. Applications of Bsmoc chem. to peptide sequences incorporating the base sensitive Asp-Gly unit gave less contamination due to aminosuccinimide formation than comparable syntheses involving std. Fmoc chem. because a weaker or less cond. base could be used in the deblocking step. Exptl. details are presented for building up peptides in soln. via the continuous method. Deblockings involved the use of insol. piperazine silica as well as the polyamine TBA (TBA = tris(2-aminoethyl)amine) which simplified aq. sepn. of the growing, but nonisolated peptide product, from excess acylating agent and other side products formed in the deblocking process. By the appropriate choice of base, one can act selectively at either site of a mol. which incorporates both β -elimination and Michael acceptor sites as protective units (Bsmoc vs. Fm and Fmoc vs. Fm; Fm = 9-fluorenylmethyl; Fmoc = 9-fluorenylmethoxycarbonyl; Fm = 1,1-dioxobenzob[trifluoro-2-ylmethyl]).

IT 229635-81-8P

RL: SPN (Synthetic preparation); PSEP (Preparation)
(peptide synthesis using benzo[c]trifluoromethyl-2-methyloxycarbonyl or "Bsmoc" as an amino-protecting group)

REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L11 ANSWER 1 OF 4 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:398434 HCAPLUS

DOCUMENT NUMBER: 125:136813

TITLE: A comparative immunocytochemical study using an antiserum against a synthetic analog of the corpora cardiaca peptide Pea-CAH-1 (ML, neurohormone D) of *Periplaneta americana*

AUTHOR(S): Eckert, M.; Gabriel, J.; Birkenbeil, H.; Greiner, G.; Fapus, J.; Gaede, G.

CORPORATE SOURCE: Institut für Allgemeine Zoologie und Tierphysiologie, E.- Schiller-Universität, Jena, D-07743, Germany

SOURCE: Cell and Tissue Research (1996), 284(3), 401-413

CODEN: CTSFCS; ISSN: 0302-760X

PUBLISHER: Springer

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An antiserum against the octapeptide Pea-CAH-I, a member of the adipokinetic hormone/red pigment-conog. hormone family, has been produced for immunocytochem. staining in insects and various other invertebrate species. The anti-Pea-CAH-I serum stains the glandular corpora cardiaca cells of those insect species that synthesize identical or structurally similar peptides. In the corpora cardiaca of species producing peptides with a different C-terminus, these cells remain unstained. Pea-CAH-I-like immunoreactivity has also been found in neurons of the central nervous system of all invertebrate orders studied. The antiserum recognizes the C-terminal sequence Pro-Asn-Trp-NH₂ of the Pea-CAH-I mol. as established by enzyme immunoassay. The widespread Pea-CAH-I-like immunoreactivity in all nervous systems of the studied animals probably does not reflect the presence of Pea-CAH-I but the occurrence of peptides carrying similar epitopes.

IT 130619-12-4 179681-94-8, 2-8-Adipokinetic hormone (*Ischnura senegalensis*)

RL: ANT (Analyte); ANST (Analytical study)

(antiserum for immunocytochem. staining of Pro-Asn-Trp-NH₂ C-terminal peptides of the adipokinetic hormone family)

L11 ANSWER 3 OF 4 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1991:579753 HCAPLUS

DOCUMENT NUMBER: 115:179753

TITLE: Binding proteins for a peptide hormone in the shrimp, *Sicyonia ingentis*: evidence from photoaffinity labeling with red pigment concentrating hormone analogs

AUTHOR(S): Frostwich, Glenn D.; Bruce, Marilyn J.; Chang, Ernest S.

CORPORATE SOURCE: Edega Mar. Lab., Univ. California, Edega Bay, CA, 94923, USA

SOURCE: General and Comparative Endocrinology (1991), 83(3), 475-480

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two photoaffinity analogs of the crustacean erythrophore (red pigment) concg. hormone (EPCH) were synthesized and shown to cause pigment concn. in the shrimp *S. ingentis*. These 2 modified oligopeptides have azidesalicylamide groups which allow introduction of an ¹²⁵I label and enable photochem. induced covalent attachment to a specific binding site. Incubation of [¹²⁵I]-ASA-Glu1-ML-2 with the 100,000 g membrane pellet and cytosol fraction from ecdysis, eyestalks, muscle, and central nervous system (CNS), followed by irradiation, SDS-PAGE and autoradiog. results in covalent modification of certain protein bands in the membranes of selected tissues. Two such proteins were obsd. in neural tissues and showed competitive displacement by excess EPCH, indicative of specific high-affinity binding. This is the 1st report of peptide hormone-binding proteins in an invertebrate and provides further evidence of a role for EPCH as a neurotransmitter in the CNS.

IT 136440-66-9

FL: PCT (Reactant); RACT (Reactant or reagent) (oxidation of)

IT 136440-64-7P

FL: PCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent) (prepn. and iodination of)

IT 136440-65-8P

FL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)

L11 ANSWER 4 OF 4 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1991:7193 HCAPLUS

DOCUMENT NUMBER: 114:7193

TITLE: Periplanetin CC-1 myotropic peptide from corpora cardiaca of cockroach *Periplaneta americana* L. New synthesis and biological studies

AUTHOR(S): Konopinska, Danuta; Rosinski, Grzegorz; Sobotka, Wieslaw

CORPORATE SOURCE: Inst. Chem., Univ. Wroclaw, Wroclaw, 50-383, Pol.

SOURCE: Bulletin of the Polish Academy of Sciences, Chemistry (1989), 37(7-8), 331-8

CODEN: BPACEQ; ISSN: 0239-7280

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 114:7193

AB Periplanetin CC-1 (pGlu-Val-Asn-Phe-Ser-Pro-Asn-Trp-NH₂) a neuropeptide from corpora cardiaca of the American cockroach *B. americana* was synthesized by the liq.-phase method. In biol. studies on the larvae of yellow mealworm, *Tenebrio molitor* the influence of periplanetin CC-2 on carbohydrate level in vivo and in vitro has been evaluated.

IT 130581-69-0P 130619-12-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(prepn. and coupling reaction of, with protected glutamic acid)

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STRUCTURE FILE UPDATES: 3 APR 2003 HIGHEST RN 501544-38-8
 DICTIONARY FILE UPDATES: 3 APR 2003 HIGHEST RN 501544-38-8

ICCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
 PROPERTIES for more information. See STNote 27, Searching Properties
 in the CAS Registry File, for complete details:
http://www.cas.org/ONLINE_STN/STNOTES/stnotes27.pdf

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L10 ANSWER 1 OF 7 REGISTRY COPYRIGHT 2003 ACS
 RN 229635-81-8 REGISTRY
 CN L-Tryptophanamide, N-[[[1,1-dioxidobenzo[b]thien-2-yl]methoxy]carbonyl]-L-
 leucyl-O-(1,1-dimethylethyl)-L-threonyl-L-phenylalanyl-O-(1,1-
 dimethylethyl)-L-threonyl-L-prolyl-N-(triphenylmethyl)-L-asparaginyl-N-(1-
 cyclopropyl-1-methylethyl)- (9CI) (CA INDEX NAME)
 NTE modified

type	location	description
modification	Leu-1	undetermined modification
modification	Thr-2	1,1-dimethylethyl<t-Bu>
modification	Thr-4	1,1-dimethylethyl<t-Bu>
modification	Asn-6	triphenylmethyl<Trit>

SQL 7
 SQL 7

SEQ 1 LTFTPNW
 =====
 HITS AT: 1-7

REFERENCE 1: 131:38173

L10 ANSWER 2 OF 7 REGISTRY COPYRIGHT 2003 ACS
 RN 179681-04-8 REGISTRY
 CN 2-3-Adipokinetic hormone (Ischnura senegalensis) (9CI) (CA INDEX NAME)
 NTE modified

type	location	description
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```
-----
terminal mod.   Trp-7           -           C-terminal amide
-----
```

SQL 7
SQL 7

SEQ 1 VNFTPGW

=====

HITS AT: 1-7

REFERENCE 1: 125:136823

L10 ANSWER 3 OF 7 REGISTRY COPYRIGHT 2003 ACS

FN 136440-66-9 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
1-de(5-oxo-L-proline)- (9CI) (CA INDEX NAME)

NTE modified

```
-----
type           ----- location ----- description
-----
terminal mod.   Trp-7           -           C-terminal amide
-----
```

SQL 7
SQL 7

SEQ 1 LMFSPGW

=====

HITS AT: 1-7

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 115:179753

L10 ANSWER 4 OF 7 REGISTRY COPYRIGHT 2003 ACS

FN 136440-65-8 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
1-de(5-oxo-L-proline)-2-[N-(4-azido-2-hydroxy-3,5-di(iodo-125I)benzoyl)-L-leucine]- (9CI) (CA INDEX NAME)

NTE modified

```
-----
type           ----- location ----- description
-----
terminal mod.   Trp-7           -           C-terminal amide
modification     Leu-1           -           undetermined modification
-----
```

SQL 7
SQL 7

SEQ 1 LMFSPGW

=====

HITS AT: 1-7

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 115:179753

L10 ANSWER 5 OF 7 REGISTRY COPYRIGHT 2003 ACS

FN 136440-64-7 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
1-de(5-oxo-L-proline)-2-[N-(4-azido-2-hydroxybenzoyl)-L-leucine]- (9CI)
(CA INDEX NAME)

NTE modified

type	location		description
terminal mod.	Trp-7	-	C-terminal amide
modification	Leu-1	-	undetermined modification

SQL 7

SQL 7

SEQ 1 LNFSPGW

=====

HITS AT: 1-7

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 115:179753

L10 ANSWER 6 OF 7 REGISTRY COPYRIGHT 2003 ACS

RN 130619-12-4 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
1-de(5-oxo-L-proline)-2-L-valine-7-L-asparagine- (9CI) (CA INDEX NAME)

NTE modified

type	location		description
terminal mod.	Trp-7	-	C-terminal amide

SQL 7

SQL 7

SEQ 1 VNFSPNW

=====

HITS AT: 1-7

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 125:136823

REFERENCE 2: 114:7193

L10 ANSWER 7 OF 7 REGISTRY COPYRIGHT 2003 ACS

RN 130581-09-0 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
1-de(5-oxo-L-proline)-2-[N-[(1,1-dimethylethoxy)carbonyl]-L-valine]-7-L-asparagine- (9CI) (CA INDEX NAME)

NTE modified

type	location		description
terminal mod.	Trp-7	-	C-terminal amide
modification	Val-1	-	(1,1-dimethylethoxy) carbonyl<Boc>

SQL 7

SQL 7

SEQ 1 VNFSPNW

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HITS AT: 1-7

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 114:7193

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FILE COVERS 1907 - 4 Apr 2003 VOL 133 ISS 15

FILE LAST UPDATED: 3 Apr 2003 22030403/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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=> d stat que 115

L1 479 SEA FILE=REGISTER ABB=ON PLU=ON [LIVFY][NT][FY][TS][PSTA][GNS
DVW][W]/SQSP
L7 189 SEA FILE=REGISTER ABB=ON PLU=ON L1 AND SQL=10
L10 7 SEA FILE=REGISTER ABB=ON PLU=ON L1 AND SQL=7
L11 4 SEA FILE=HAPLUS ABB=ON PLU=ON L10
L12 10 SEA FILE=REGISTER ABB=ON PLU=ON L7 NOT MODIF?/NTE
L13 10 SEA FILE=REGISTER ABB=ON PLU=ON L12 NOT L10
L14 10 SEA FILE=HAPLUS ABB=ON PLU=ON L13
L15 10 SEA FILE=HAPLUS ABB=ON PLU=ON L14 NOT L11

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=> d ibib abs hitrn 115 1-10

L15 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:376332 HCAPLUS

DOCUMENT NUMBER: 127:73894

TITLE: N-terminal modifications of AKH-I from Locusta migratoria: assessment of biological potencies in vivo and in vitro

AUTHOR(S): Lee, Michael J.; Cusinato, Ornella; Luswata, Rebecca; Wheeler, Colin H.; Goldsworthy, Graham J.

CORPORATE SOURCE: Dep. Biology, Birkbeck College, Univ. London, London, WC1E 7HX, UK

SOURCE: Regulatory Peptides (1997), 69(2), 69-76

CODEN: REPEPDY; ISSN: 0167-0115

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB To investigate the receptor tolerances to N-terminal variation, novel analogs to Locusta AKH-I (adipokinetic hormone) have been synthesized with modifications at the N-terminus. Analogs were made where the N-terminal

pyroglutamyl residue was spaced further from the remainder of the mol. by the insertion of glycine residues between either pGlu1 and Leu2 (Gly1a-AKH-I or Leu2 and Asn3 (Gly2a-AKH-I and Gly2ab-AKH-I). Other modified hormones with N-terminal extensions were: (Ahx)n-AKH-I (Ahx, aminohexanoic acid); HPP(Ahx)n-AKH-I (HPP, hydroxyphenyl propionate) and Ac(Ahx)n-AKH-I (where n = 0-2). Finally, acetylated and nonacetylated amino acids were substituted for pGlu1: Glu, Pro, Ala and Tyr. The effects of these modifications on biol. potency were tested in the lipid mobilization assay *in vivo* and acetate uptake assay *in vitro*. The potency of AKH-I was reduced much more by insertion of glycine between pGlu1 and Leu2, than between Leu2 and Asn3, perhaps suggesting that a hydrophobic residue is required adjacent to the pGlu for biol. activity. In addn., a residue N-terminal to Leu1 is necessary for activity (i.e., [Des-pGlu]-AKH-I is inactive) unless the free N-terminus is acetylated: Ac[Des-pGlu]-AKH-I is active, but has low potency. The potencies of HPP(Ahx)0-2-AKH-I, Ac(Ahx)1-3-AKH-I and glycine-inserted analogs decreased consistently with increasing extension of the N-terminus away from the remainder of the mol. However, potencies of the unblocked (Ahx)n-AKH-I analogs did not, and potency in either assay did not appear related to the no. of aminohexanoic residues. Similarly, while hormonal activity was retained by substitution of pGlu1 by Tyr, Pro, Ala or Glu in both assays, acetylation of the resulting analogs did not provide a consistent increase in potency, but actually decreased for AcGlu1-AKH-I compared with its unblocked analog. HPP1-AKH-I was the most potent of the modified peptides tested, with almost the same potency in the assay *in vitro* as the natural peptide.

IT 186082-75-7

BI: BAC (Biological activity or effector, except adverse); BSU (biological study, unclassified); BIOB (Biological study)

CU-terminal modifications of AKH-I from *Locusta migratoria*: assessment of biol. potencies *in vivo* and *in vitro*

L15 ANSWER 1 OF 10 HCAPLUS COPYRIGHT 2013 ACS

ACCESSION NUMBER: 1287:11889 HCAPLUS

DOCUMENT NUMBER: 120:115541

TITLE: Synthesis and biological activity of adipokinetic hormone analogs modified at the C-terminus

AUTHOR(S): Lee, Michael J.; Goldsworthy, Graham J.; Poulos, Constantine E.; Velenica, Anastasia

CORPORATE SOURCE: Dep. Biol., Birkbeck Coll., Univ. London, London, WC1E 7HX, UK

SOURCE: Peptides (Tarrytown, New York) (1996), 17(4), 1185-1190

CODEN: PPTODI; ISSN: 0196-9781

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of *Locusta* adipokinetic hormone I (AKH-I), QQLNFTPNWSTa, analogs were synthesized with modifications at the C-terminal threonine residue using a combination of solid- and liq.-phase methodol. and evaluated in *Locusta migratoria*, in a lipid mobilization assay *in vivo* and an acetate uptake assay *in vitro*. Modifications at Thr10 of AKH-I involved replacement of its C-terminal amide by the groups -OH, -OCH₃, -NHCH₃, -N(CH₃)₂, and -NHC6H₅; the last three groups were also applied to the amide of AKH-I-[Thr(Bzl)10]. The Me ester, monomethyl, and di-Me analogs were all of lower activity than the parent in the lipid mobilization assay, but lost less than two orders of potency. In the acetate uptake assay, again the Me ester analog showed the greatest retention of biol. activity of all modified peptides. A cyclic analog, cyclo(PLNFTPNWST), was active in both assays, but only at very high concns. Almost all analogs were more active in the acetate uptake assay than in the lipid assay, but unusually, AKH-I-NHCH₃ and AKH-I-N(CH₃)₂, together with cyclo(PLNFTPNWST), were more active in the lipid mobilization assay. In

addn., the acid AKH-I analog did not suffer as large a loss in potency in the lipid mobilization assay as in the acetate uptake assay, although it was less potent in the former. The relative potencies of these two Me analogs contrast with those for AKH-I-[Thr(Bzl)11]-NHCH₃ and AKH-I-[Thr(Bzl)10]-N(CH₃)₂, which, together with both Ph analogs, were significantly more active in the acetate uptake assay. The authors conclude that the acetate uptake assay has a greater preference for a hydrophobic C-terminus, compared with the lipid mobilization assay.

IT 186082-60-0 186082-75-7

EL: PAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PEP (Properties); EICL (Biological study)
(Biol. activity and structure of adipokinetic hormone I analogs modified at C-termini)

L15 ANSWER 3 OF 10 HCAPLUS COPYRIGHT 2013 ACS

ACCESSION NUMBER: 1991:465141 HCAPLUS

DOCUMENT NUMBER: 103:01105

TITLE: Structure-activity relationships for *Periplaneta americana* hypertrehalosemic hormone I: the importance of side chains and termini

AUTHOR(S): Gao, Geng; Hayes, Timothy K.

CORPORATE SOURCE: Zoology Dep., Univ. of Cape Town, Rondebosch, 7700, S. Afr.

SOURCE: Peptides (Tarrytown, New York) (1995), 16(7), 1113-30

ORIGIN: EPID05; ISSN: 0196-9781

PUBLISHER: Dekker

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Single amino acid replacement analogs for native hypertrehalosemic hormone I (I) of the American cockroach, *Periplaneta americana* [pGlu-Val-Asn-Phe-Ser-Pro-Asn-Trp-NH₂], were prepd. by solid-phase peptide synthesis, and complete dose-response curves were measured in *P. americana* monitoring the carbohydrate-mobilizing activity in vivo. All analogs that elicited hypertrehalosemia showed similar time-response courses, indicating that transport and degradn. rates were comparable. Comparison of the potency and efficiency parameters of the analogs under study in the dose-response curves revealed 4 activity groups: (1) analogs that had the arom. amino acids at positions 4 (Phe) or 6 (Trp) replaced by Ala and Gly, resp., had trace activity; (2) analogs with Ala at positions 1 or 2 had low potencies and an apparent biphasic dose-response relation without much observable loss of efficacy; (3) analogs with Gly at positions 6 and 7 had potencies and efficacies most similar to I; and (4) analogs that had either an Ala instead of Asn at position 3, or had a substitution of the carboxylamide function at the C-terminus by a carboxyl function reached apparent satn., but only achieved 50-57% of the max. activity of native I. The potency profile for the analog set was consistent with the importance of the N-terminal pentapeptide and the C-terminal Trp interacting with receptor(s) more closely than the side-chains at positions 6 and 7, which are predicted to be the corner residues of a β -turn. Finally, the biphasic dose-response curves obsd. for more than one analog suggested the potential that receptors for I exist in more than 1 form.

IT 170809-15-1P

EL: PEP (Properties); SPG (Synthetic preparation); PREP (Preparation)
(structure-activity relations for *Periplaneta americana* hypertrehalosemic hormone I and analogs)

L15 ANSWER 4 OF 10 HCAPLUS COPYRIGHT 2013 ACS

ACCESSION NUMBER: 1991:455024 HCAPLUS

DOCUMENT NUMBER: 124:04154

TITLE: Molecular cloning of three distinct cDNAs, each encoding a different adipokinetic hormone precursor, of the migratory locust, *Locusta migratoria*.
Differential expression of the distinct adipokinetic

hormone precursor genes during flight activity
 AUTHOR(S): Bogerd, Jan; Kooiman, Frank P.; Pignenborg, Marian A.
 I.; Hekking, Liesbeth H. P.; Oudejans, Rob C. H. M.;
 Van der Horst, Dick J.
 CORPORATE SOURCE: Dep. Experimental Biol., Utrecht Univ., Utrecht, 3534
 HE, Neth.
 SOURCE: Journal of Biological Chemistry (1995), 270(39),
 23038-43
 CODEN: JBCOHA; ISSN: 0021-9615
 PUBLISHER: American Society for Biochemistry and Molecular Bio-
 logy
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Three distinct cDNAs encoding the prepro-adipokinetic hormones I, II, and
 III (prepro-AKH I, II, and III), resp., of *Locusta migratoria* have been
 isolated and sequenced. The three *L. migratoria* AKH precursors have an
 overall architecture similar to that of other precursors of the AKH/red
 pigment-concg. hormone (RPCH) family identified so far. The AKH I and II
 precursors of *L. migratoria* are highly homologous to the *Schistocerca*
gregaria and *Schistocerca nitans* AKH precursors. Although the *L.*
migratoria AKH III precursor appears to be the least homologous to the
Manduca sexta, *Drosophila melanogaster*, and *Carcinus maenas* AKH/RPCH
 precursors, we favor the opinion that the *L. migratoria* AKH III precursor
 is evolutionarily more related to the *M. sexta*, *D. melanogaster*, and *C.*
maenas AKH/RPCH precursors than to the AKH I and II precursors of *S.*
gregaria, *S. nitans*, or *L. migratoria*. In situ hybridization showed
 signals for the different AKH mRNAs to be co-localized in cell bodies of
 the glandular lobes of the corpora cardiaca. Northern blot anal. revealed
 the presence of single mRNA species encoding the AKH I precursor
 (.apprx.570 bases), AKH II precursor (.apprx.600 bases), and AKH III
 precursor (.apprx.670 bases), resp. Interestingly, flight activity
 increased steady-state levels of the AKH I and II mRNAs (.apprx.3.0 times
 each) and the AKH III mRNA (.apprx.4.2 times) in the corpora cardiaca.

IT 171434-81-4 171434-82-5

EL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP
 (Properties); BIOL (Biological study); OCCU (Occurrence)
 (amino acid sequence; mol. cloning of three distinct cDNAs, each
 encoding a different adipokinetic hormone precursor, of the migratory
 locust, *Locusta migratoria*)

L15 ANSWER 5 OF 10 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:673572 HCAPLUS
 DOCUMENT NUMBER: 134:1982
 TITLE: A highly conserved red pigment-concentrating hormone
 precursor in the blue crab *Callinectes sapidus*
 AUTHOR(S): Klein, Jorg M.; Mohrherr, Carl J.; Sleutels, Frank;
 Gaenecke, Nicola; Fiehm, John P.; Rao, K. Ranga
 CORPORATE SOURCE: Dep. Cell. Mol. Biol., Univ. West Florida, Pensacola,
 FL, 32514-5731, USA
 SOURCE: Biochemical and Biophysical Research Communications
 (1995), 212(1), 151-8
 CODEN: BERCA9; ISSN: 0006-291X
 PUBLISHER: Academic
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A cDNA library was established from the eyestalk ganglia of the blue crab
Callinectes sapidus. One clone was isolated (644 bp excluding the poly(A)
 tail) which encodes the red pigment-concg. hormone (RPCH)-precursor,
 consisting of the 25 amino acid residue signal peptide, the RPCH, and a 73
 amino acid residue RPCH-precursor related peptide. This clone displays
 high sequence similarity with a clone isolated from an eyestalk cDNA
 library of the shore crab *Carcinus maenas*, in accordance with the close
 phylogenetic relation between these species. Northern blot expts.

indicated the presence of two different mRNA transcripts which hybridized with a specific RPCH-cDNA probe pointing to the possibility of multiple RPCH isoforms in the blue crab. Although crustacean RPCH and the insect adipokinetic hormones (AKH) are structurally related, their precursors show little similarity.

IT 151271-51-1

EL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOB (Biological study); OOCU (Occurrence)
(amino acid sequence; a highly conserved red pigment-concg. hormone precursor in blue crab *Callinectes sapidus*)

L15 ANSWER 6 OF 10 HCAPLUS COPYRIGHT 1993 ACS

ACCESSION NUMBER: 1993:642542 HCAPLUS

DOCUMENT NUMBER: 119:642542

TITLE: Molecular cloning of crustacean red pigment concentrating hormone precursor

AUTHOR(S): Linke, B.; Klein, T. M.; Mangerich, S.; Keller, S.; Wiedemann, W. M.

CORPORATE SOURCE: Inst. Zoophysiol., Univ. Bonn, Bonn, D-53115, Germany
SOURCE: Biochemical and Biophysical Research Communications (1993), 196(1), 307-13

CODEN: BBSCAM; ISSN: 0006-291X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A cDNA encoding the precursor of the red pigment concg. hormone (RPCH) of the shore crab, *Cardinus maenas*, was isolated and sequenced. The predicted preprohormone sequence consists of a putative 25 amino acid signal peptide, the eight amino acid RPCH sequence followed by a Gly as amide donor, a dibasic processing site and a 74 residue peptide of unknown function, referred to as RPCH-precursor-related peptide (RPRE). In situ hybridization expts., the RPCH gene transcript could be localized in two clusters of neurons in the medulla terminalis of the eyestalk.

IT 151271-51-1, Red pigment concentrating hormone (*Cardinus maenas*)

EL: RPP (Properties)

(amino acid sequence of)

L15 ANSWER 7 OF 10 HCAPLUS COPYRIGHT 1993 ACS

ACCESSION NUMBER: 1993:599933 HCAPLUS

DOCUMENT NUMBER: 119:599933

TITLE: AKH biosynthesis: transcriptional and translational control of two co-localized prohormones

AUTHOR(S): Fischer-Bougheed, Jacqueline; O'Shea, Michael; Cornish, Ian; Losterger, Christophe; Roulet, Emmanuelle; Schulz-Aellen, Marie Françoise

CORPORATE SOURCE: Sch. Biol. Sci., Univ. Sussex, Brighton, BN1 9QG, UK
SOURCE: Journal of Experimental Biology (1993), 177, 223-41

CODEN: JEBIAM; ISSN: 0022-0949

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The neurosecretory cells of the locust corpora cardiaca (CC) express w co-localized transcripts which are translated into the 2 preprohormones required in adipokinetic hormone I (AKH I) and AKH II biosynthesis. At different stages of postembryonic development, the relative amts. of the 2 transcripts (AKH I mRNA and AKH II mRNA) change in parallel with the relative rates of synthesis of proAKH I and proAKH II. Differential regulation of transcript expression, however, cannot account for the changes in neuropeptide ratios seen during postembryonic development. Comparison of in vivo and in vitro translation shows that protein synthesis in vivo is biased towards the translation of AKH I mRNA by a factor of approx. 2.6. This factor appears to be const. during postembryonic development and is required to produce the obsd. developmental changes in neuropeptide ratios. Both transcriptional and translational mechanisms are therefore necessary to alter neuropeptide

ratios in the CC. The mechanisms can account for the developmentally changing pattern of peptide expression. Regulation of neuropeptide ratios indicates that signalling functions can be attributed to the precise configuration of peptide cocktails.

IT 149924-80-1, Protein (Schistocerca gregaria adipokinetic hormone I)
149924-81-2, Protein (Schistocerca gregaria adipokinetic hormone I)

EL: BIOL (Biological study)

(amino acid sequence and mRNA for, in development)

L15 ANSWER 8 OF 10 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1989:51248 HCAPLUS

DOCUMENT NUMBER: 111:11248

TITLE: Structure-activity relationships for insect hypertrehalosemic hormone: the importance of side chains and termini

AUTHOR(S): Ford, Mary M.; Hayes, Timothy K.; Keeley, Larry L.

CORPORATE SOURCE: Dep. Entomol., Texas A and M Univ., College Station, TX, 77843, USA

SOURCE: Sept.: Chem. Biol., Proc. Am. Pept. Symp. 10th (1988), Meeting late 1987, 659-6. Editor(s): Marshall, Garland F. ESCOM Sci. Publ.: Leiden, Neth.
CITEN: 5CHFA6

DOCUMENT TYPE: Conference

LANGUAGE: English

AB Synthetic analogs 15 of hypertrehalosemic hormone (HTH) were tested in vivo to measure hemolymph sugar contents in *Blaberus discoidalis*. These analogs were designed to replace each amino acid residue outside the putative .beta.-turn region with an alanine residue. Amino acids favorable to .beta.-turn formation were used to replace the naturally occurring residues in the 5-8 positions. Since glycine does not have an asym. .alpha.-carbon, replacement analogs for positions 7 and 8 were D- and L-amino acid residues. Pyroglutamate-1, phenylalanine-4, and tryptophan-5 are essential for the hypertrehalosemic effect of HTH in *B. discoidalis*.

IT 106007-77-6

EL: FAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

(hypertrehalosemic hormone activity of, in tropical cockroach)

L15 ANSWER 9 OF 10 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1987:28979 HCAPLUS

DOCUMENT NUMBER: 106:28979

TITLE: Insect hypertrehalosemic hormone: isolation and primary structure from *Blaberus discoidalis* cockroaches

AUTHOR(S): Hayes, Timothy K.; Keeley, Larry L.; Knight, Dan W.

CORPORATE SOURCE: Dep. Entomol., Texas A and M Univ., College Station, TX, 77843, USA

SOURCE: Biochemical and Biophysical Research Communications (1986), 140(2), 674-8
CITEN: BBRCAB; ISSN: 0006-291X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A new neurohormone that increased hemolymph carbohydrate (trehalose) levels in the cockroach *B. discoidalis*, was isolated and structurally characterized. The hormone was isolated in high yield by a rapid HPLC procedure. The sequence, pGlu-Val-Asn-Phe-Ser-Pro-Gly-Trp-Gly-Thr-NH₂ (pGlu = pyroglutamyl), was suggested from gas-phase Edman degradn. of a peptide fragment of the natural peptide after deblocking with pyroglutamate aminopeptidase. The structure was confirmed by synthesis of the suggested sequence. The synthetic peptide had identical chromatog. and biol. properties as the natural peptide.

IT 106007-77-6P

PL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

L15 ANSWER 10 OF 10 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1979:59:100 HCAPLUS

DOCUMENT NUMBER: 91:19010

TITLE: Structure-function studies on red pigment-
concentrating hormone. II. The significance of the
C-terminal tryptophan amide

AUTHOR(S): Christensen, Mogens; Carlsen, Jens; Josefsson, Lars
CORPORATE SOURCE: Dep. Biochem. C, Univ. Copenhagen, Bagsvaerd, Den.
SOURCE: Hoppe-Seyler's Zeitschrift fuer Physiologische Chemie
1979, 360(3), 1051-60
CODEN: HCAPAZ; ISSN: 0018-4838

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The significance of the C-terminal tryptophan residue of the red
pigment-concg. hormone (RPCH: pGlu-Leu-Asn-Phe-Ser-Pro-Gly-Trp-NH₂, where
pGlu = pyroglutamic acid) regulating the blanching of the crustacean
chromatophores was investigated. RPCH and a no. of analogs that differ
only in the C-terminal part of the hormone were synthesized and assayed
for biol. activity on the shrimp *Leander adspersus*. The indole skeleton
of tryptophan was an abs. requirement for the biol. activity of the
hormone. To provide max. response the tryptophan must be blocked as the
amide. The activity of synthetic [4-tyrosine]RPCH and adipokinetic
hormone from *Schistocerca gregaria* was not markedly different from that of
synthetic RPCH.

IT 71676-46-5P

PL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and pigment-concg. activity of, in shrimp)

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in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN.STNOTES/stnotes27.pdf>

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L13 ANSWER 1 OF 10 REGISTRY COPYRIGHT 2003 ACS
 EN 186082-75-7 REGISTRY
 CN Adipokinetic hormone I (Locusta migratoria), 1-L-proline-10-L-threonine-,
 (10.fwdarw.1)-lactam (9CI) (CA INDEX NAME)
 RTE cyclic
 SQL 10
 SQL 10

SEQ 1 NFTPENWG1PL

=====

HITS AT: 1-6, 10

REFERENCE 1: 127:78894

REFERENCE 2: 126:115891

L13 ANSWER 2 OF 10 REGISTRY COPYRIGHT 2003 ACS
 EN 186082-60-0 REGISTRY
 CN Adipokinetic hormone I (Locusta migratoria), 10-L-threonine- (9CI) (CA
 INDEX NAME)

RTE

Type	Location	Description
Uncommon	GLp-1	-

SQL 10

SQL 10

SEQ 1 XLNFTPWGT

=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 126:115891

L13 ANSWER 3 OF 10 REGISTRY COPYRIGHT 2003 ACS
 EN 171434-82-5 REGISTRY
 CN Adipokinetic hormone III (Locusta migratoria), 1-L-glutamine-8a-glycine-
 (9CI) (CA INDEX NAME)

SQL 9

SQL 9

SEQ 1 QLNETPWVG

=====

HITS AT: 2-8

REFERENCE 1: 124:24154

L13 ANSWER 4 OF 10 REGISTRY COPYRIGHT 2003 ACS
 EN 171434-81-4 REGISTRY
 CN Adipokinetic hormone II (Locusta migratoria), 1-L-glutamine-8a-glycine-
 (9CI) (CA INDEX NAME)

SQL 9

SQL 9

SEQ 1 QLNFSAWGS

=====

HITS AT: 2-8

REFERENCE 1: 124:24154

L13 ANSWER 5 OF 10 REGISTRY COPYRIGHT 2003 ACS

FN 170809-15-1 REGISTRY

CN Hypertrehalosemic hormone I (*Periplaneta americana*), 8-L-tryptophan- (9CI)
(CA INDEX NAME)

DPE

type		location		description	
uncommon		Glp-1	-	-	

SQL 8

SQL 8

SEQ 1 XVNESPW

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HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 1.3:323125

L13 ANSWER 6 OF 10 REGISTRY COPYRIGHT 2003 ACS

FN 11271-51-1 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (*Pandalus borealis*)
1-L-glutamine-8-L-tryptophan- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Chromatophorotropin, red-pigment-concentrating (*Callinectes sapidus*
eyestalk ganglion)

CN Red pigment concentrating hormone (*Carcinus maenas*)

CN Red-pigment-concentrating hormone (*Callinectes sapidus* eyestalk ganglion)

SQL 8

SQL 8

SEQ 1 QLMFSPGW

=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 124:1982

REFERENCE 2: 119:242542

L13 ANSWER 7 OF 10 REGISTRY COPYRIGHT 2003 ACS

FN 149924-81-2 REGISTRY

CN Adipokinetic hormone I (*Locusta migratoria*), 1-L-glutamine-10-L-threonine-
(9CI) (CA INDEX NAME)

OTHER NAMES:

CN Protein (*Schistocerca gregaria* adipokinetic hormone I)

SQL 10

SQL 10

SEQ 1 QLNETENWGT

=====

HITS AT: 2-8

REFERENCE 1: 119:199933

L13 ANSWER 8 OF 10 REGISTRY COPYRIGHT 2003 ACS

FN 149924-80-1 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (*Pandalus borealis*)

1-L-glutamic acid-6-L-threonine-8-L-tryptophan- (9CI) (CA INDEX NAME)

OTHER NAMES:

CN Protein (Schistocerca gregaria adipokinetic hormone II)

SQL 8

SQL 8

SEQ 1 ELNFSTGW

=====

HITS AT: 2-8

REFERENCE 1: 119:199933

L13 ANSWER 9 OF 10 REGISTRY COPYRIGHT 2003 ACS

EN 106007-77-6 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
2-L-valine-3a-glycine-3b-L-threonine- (9CI) (CA INDEX NAME)

NIE

type	location	description
uncommon	Glp-1	-
SQL 10		
SQL 10		

SEQ 1 XYNFSPGWGT

=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 111:112488

REFERENCE 2: 106:28979

L13 ANSWER 10 OF 10 REGISTRY COPYRIGHT 2003 ACS

EN 71676-46-5 REGISTRY

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
3-L-tryptophan- (9CI) (CA INDEX NAME)

NIE

type	location	description
uncommon	Glp-1	-
SQL 8		
SQL 8		

SEQ 1 XLNFSPGW

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HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 91:190100

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122 ANSWER 1 OF 60 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 2002:315407 HCAPLUS
 DOCUMENT NUMBER: 138:134204
 TITLE: Sensitivity of larval and adult crickets (*Gryllus bimaculatus*) to adipokinetic hormone
 AUTHOR(S): Woodring, Joseph; Lorenz, Matthias W.; Hoffmann, Klaus H.
 CORPORATE SOURCE: Animal Ecology I, University of Bayreuth, Bayreuth, 95440, Germany
 SOURCE: Comparative Biochemistry and Physiology, Part A: Molecular & Integrative Physiology (2002), 133A(3), 637-644
 CODEN: CBPAB; ISSN: 1095-6433
 PUBLISHER: Elsevier Science Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Total carbohydrate and **lipid** concns. in the hemolymph of female and male last instar larvae were high at the beginning and the end of the larval stage but low approx. 24 h after molt. Except during the first few hours of the larval stage, **lipids** exceeded the sugar content in all ages in both sexes. Injections of 5.0-30 pmol Gryoi-AKH into 1-day-old last instar larvae resulted in a dose-dependent **mobilization** of energy stores in which **lipid** release was approx. twice that of carbohydrate release. This sensitivity in energy **mobilization** to AKH remained relatively const. in older larvae,

whereas no sugars and only minor amts. of **lipids** were released in freshly ecdysed larvae. Carbohydrate and **lipid** concns. in the hemolymph of adult females and males changed slightly during the first 5 days of adult life, but both decreased with increasing age.

Lipids exceeded the sugar content at all ages. Injections of 0.11-0.3 pmol Grybi-AKH into 2-day-old adults resulted in a dose-dependent release of **lipids** with approx. 100% increase at 0.3 pmol, whereas carbohydrates were only slightly **mobilized** by 10 and 30 pmol AKH, resp. At the beginning of adult life as well as in animals older than 10 days, carbohydrate and **lipid mobilization** was lower than during the intervening ages. One to 4 h of tethered flight induced moderate increase in hemolymph **lipids** when compared to injection of 10 pmol AKH. AKH degradn. in the hemolymph (in vivo) occurred with a half-life of approx. 5 min. In vitro tests indicated that AKH-degrading enzymes were released from the hemocytes.

IT 113800-65-0, Adipokinetic hormone (Gryllus bimaculatus)

RL: BSU (Biological study, unclassified); BIOC (Biological study)

(adipokinetic hormone effects on carbohydrate and lipid concns. of hemolymph of larval and adult crickets Gryllus bimaculatus)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER L OF 60 HCAPLIS UNRETRIEVED 2103 ACS

ACCESSION NUMBER: 100144211 HCAPLIS

DOCUMENT NUMBER: 100144211

TITLE: The role of Ins(1,4,5)P₃ in signal transduction of the metabolic neuropeptide Mem-CC in the cottoniid beetle, *Pachnoda sinuata*

AUTHOR(S): Apenwala, Lata; Gase, Bernd

CORPORATE SOURCE: Zoology Department, University of Cape Town, Rondebosch, 7701, S. Afr.

SOURCE: Insect Biochemistry and Molecular Biology (2002), 46(12), 1493-1503

CODEN: IEMBE5; ISSN: 0965-1748

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors have investigated the role of inositol triphosphate, Ins(1,4,5)P₃, in the transduction of the hypertrehalosemic and hyperprolinemic signal of the endogenous neuropeptide Mem-CC in the cottoniid beetle *Pachnoda sinuata*. Flight and injection of Mem-CC into the hemocoel of the beetle induce an increase of Ins(1,4,5)P₃ levels in the fat body of the beetle. When Mem-CC is co-injected with U 73122, which is an inhibitor of phospholipase C, this effect is abolished. Mem-CC also elevates Ins(1,4,5)P₃ concn. in fat body pieces in vitro. The increase in Ins(1,4,5)P₃ levels is tissue-specific and does not occur in brain and flight muscles. Elevation of the Ins(1,4,5)P₃ levels upon injection of Mem-CC is time- and dose-dependent: the max. response is reached after 3 min and a dose of 10 pmol is needed. Compds. that mimic the action of cAMP (cpt-cAMP, forskolin) do not influence the concn. of Ins(1,4,5)P₃, while those that stimulate G-proteins (calcium fluprine and cholera toxin) cause an increase of Ins(1,4,5)P₃ levels. The application (in vivo and in vitro) of F-Ins(1,4,5)P₃, an Ins(1,4,5)P₃ analog that penetrates the cell membrane, causes a **mobilization** of carbohydrate reserves via the activation of **glycogen phosphorylase** but does not stimulate proline synthesis. In addn., U 73122 abolishes the hypertrehalosemic, but not the hyperprolinemic, effect of Mem-CC. The results suggest that the hypertrehalosemic signal of Mem-CC is mediated via an increase of Ins(1,4,5)P₃ levels in the fat body of *P. sinuata*.

IT 129204-82-6, Hypertrehalosemic hormone (Phormia terrae-novae)

133156-05-5, Lcm AKH-III 186020-60-0, Sod CC-II

RL: BSU (Biological study, unclassified); BIOC (Biological study)

(adipokinetic hormones effect on inositol trisphosphate in fat body of

keetle Pachnoda sinuate)

REFERENCE COUNT: 41 THERE ARE 41 CITEI REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE FE FORMAT

L22 ANSWER 2 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:315-15 HCAPLUS

DOCUMENT NUMBER: 136:44516

TITLE: Topical application of Pya-AKH stimulates **lipid mobilization** and locomotion in the flightless bug, *Pyrrhocoris apterus* (L.) (Heteroptera)

AUTHOR(S): Kodrik, Dalibor; Socha, Radomir; Zemek, Rostislav
CORPORATE SOURCE: Institute of Entomology, Academy of Sciences, Ceske Budejovice, Czech Rep.

SOURCE: Physiological Entomology (2002), 27(1), 15-20
CODEN: PFENTE; ISSN: 1367-6942

PUBLISHER: Blackwell Publishing Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two different methods of applying Pya-AKH to long-winged (macropterous) females of the firebug, *Pyrrhocoris apterus* Linnaeus (Heteroptera) were compared: both injection and topical application increased the levels of **lipids** in the haemolymph and stimulated locomotor activity.

Lipid mobilization was maximal when 10 pmol was applied by injection or 40-100 pmol by topical application, with the first significant responses occurring 1.5 h after injection and 2 h after topical application. The highest elevations of **lipid** concn. in the haemolymph were comparable between the treatments, i.e., 14.26 mg/mL for injection and 14.43 mg/mL for topical application. However, these maximal elevations were achieved at different times: 5 h after the injection and 7 h after the topical application. Injection of 10 and 40 pmol of Pya-AKH stimulated locomotor activity with maximal activity 3 h later but, surprisingly, injection of 80 pmol showed no effect initially and then a slight inhibitory effect after 6-8 h. Increased locomotor activity was found after topical application of Pya-AKH, but the response was lower than after injection and appeared later, 5-9 h after the hormone application. In addition, the greatest increase in walking activity required topical application of 100 pmol and was still less dramatic than the response to injection. The stimulatory effect of Pya-AKH on locomotion was pos. correlated with its effect in **lipid mobilization** only for injection of the hormone. It is argued that a stress caused by injection could play a role in the appearance of the complex response to adipokinetic hormone.

IT 68016-54-6, Adipokinetic hormone (*Pyrrhocoris apterus*)
RL: B33 (Biological study, unclassified); B10L (Biological study)
(topical application of Pya-AKH stimulates **lipid mobilization** and locomotion in *Pyrrhocoris apterus*)

REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 4 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2002:106339 HCAPLUS

DOCUMENT NUMBER: 136:30233

TITLE: Identification of the cockroach neuropeptide Pea-CAH-II as a second adipokinetic hormone in the firebug *Pyrrhocoris apterus*

AUTHOR(S): Kodrik, Dalibor; Simek, Petr; Lepsa, Ludek; Socha, Radomir

CORPORATE SOURCE: Institute of Entomology, Academy of Sciences, Ceske Budejovice, CZ-370 05, Czech Rep.

SOURCE: Peptides (New York, NY, United States) (2002), 23(3), 385-387
CODEN: PPTUDS; ISSN: 0196-9781

PUBLISHER: Elsevier Science Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A new member of the AKH/RPCH family was isolated from the corpora cardiaca of the firebug *Pyrrhocoris apterus*. It is the second adipokinetic peptide identified in this species. The peptide was characterized and its structure was deduced from the multiple MSN electrospray mass spectra as that of an octapeptide with the sequence: Glu-Leu-Thr-Phe-Thr-Pro-Asn-Trp-NH₂. The peptide differs from the original P. apterus AKH (Pya-AKH) by the amino acid in position 2. Topical application and/or injection of the peptide induced **lipid mobilization**, but was inactive in **mobilization** of dark pigments.

IT 93240-39-2P, Pea-CAH-II

RI: EIN (Biosynthetic preparation); ESU (Biological study, unclassified); RFP (Properties); PUR (Purification or recovery); EIDL (Biological study); RREP (Preparation)

(cockroach neuropeptide Pea-CAH-II is second adipokinetic hormone in firebug *Pyrrhocoris apterus*)

IT 68016-54-6P, Adipokinetic hormone (*Pyrrhocoris apterus*)

RI: BSU (Biological study, unclassified); PUR (Purification or recovery); EIDL (Biological study); RREP (Preparation)

(cockroach neuropeptide Pea-CAH-II is second adipokinetic hormone in firebug *Pyrrhocoris apterus*)

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 5 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:19202 HCAPLUS

DOCUMENT NUMBER: 137:90494

TITLE: LC/MS analysis of adipokinetic peptides in the *Pyrrhocoris apterus* (Heteroptera)

AUTHOR(S): Simek, Petr; Logsa, Ludak; Koudrik, Dalibor

CORPORATE SOURCE: Institute of Entomology, Academy Sciences of the Czech Republic, Ceska Budejovice, 370 05, Czech Rep.

SOURCE: Collection Symposium Series (2001), 4(Biologically Active Peptides), 90-92

CODEN: CSYSEK

PUBLISHER: Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An LC/ESI/MS/MS method was developed for quant. anal. of peptides from the adipokinetic hormone/red pigment concg. hormone family (AKH/RPCH family) in insects. The peptides were extd. with aq. methanol, the ext. defatted and the aq. layer analyzed by LC/ESI/MSN. With the developed methodol. low femtomole levels can be detected allowing thus direct AKH sequencing and anal. in the corpora cardiaca from one individual insect. Direct examn. of corpora cardiaca of the P. apterus revealed a new adipokinetic peptide. It is an octapeptide designated as Pya-AKH-II with the sequence pGlu-Leu-Thr-Phe-Thr-Pro-Asn-Trp-NH₂. The new peptide is active in the **lipid mobilization** assay, but its activity seems to be lower than that of Pya-AKH-I. The identity of the Pya-AKH-II was unequivocally confirmed by synthesis.

IT 93240-39-2, Hypertrehalosemic hormone II (*Periplaneta americana*)

RI: ANT (Analyte); RFP (Properties); ANST (Analytical study)

(LC/MS anal. of adipokinetic peptides in *Pyrrhocoris apterus* (Heteroptera))

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 6 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2001:425001 HCAPLUS

DOCUMENT NUMBER: 135:90204

TITLE: Potencies of naturally-occurring AKH/RPCH peptides in *Locusta migratoria* in the acetate uptake assay in vitro and comparison with their potencies in the **lipid mobilization** assay in vivo

AUTHOR(S): Gade, G.; Ico, M. J.; Goldsworthy, G. J.; Kellner, R.

CORPORATE SOURCE: Zoology Department, University of Cape Town, Rondebosch, 7701, S. Afr.

SOURCE: Acta Biologica Hungarica (2000 , 51,2-4), 369-377
CEN: ABHUEG; ISSN: 0236-5133

PUBLISHER: Akademiai Kiado

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The biol. potencies of a no. of naturally-occurring octa- and decapeptides of the large AKH/RPCH family of peptides were detd. in *Locusta migratoria* using the **lipid-mobilizing** assay in vivo and the acetate uptake assay in vitro. The most potent of the newly-tested peptides in the in vitro assay, Phl-CC, differs from the endogenous major locust peptide, Lcm-AKH-I, only by an exchange of serine vs. threonine at position 10. However, the most active peptide in the in vitro assay remains Lcm-AKH-III. At the other extreme is the peptide Mem-CC which contains a tyrosine residue at position 4 rather than the more typical phenylalanine. This peptide is over 20,000 times less potent than Lcm-AKH-III in the in vitro assay, and also results in an unusual dose-response curve in the in vivo assay. Only a few peptides are approx. equipotent in both assays, but mostly the bioanalogs have a higher potency in vitro. The majority of them are 1-10-fold more potent in vitro, but Ani-AKH and Lcm-AKH-III are 12- and 49-fold more potent. The results are discussed in relation to either the actions of proteases or of possible preferential binding of different receptors involved in the different assays.

IT 37933-92-9 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*) 90549-76-1, Adipokinetic hormone II (*Schistocerca gregaria*) 93208-51-6, Hypertrehalosemic hormone I (*Periplaneta americana*) 93240-39-2, Hypertrehalosemic hormone II (*Periplaneta americana*) 98968-94-6, Adipokinetic hormone II (*Locusta migratoria*) 99886-31-4, Adipokinetic hormone (*Manduca sexta*) 102067-93-6, Hypertrehalosemic hormone II (*Carausius morosus*) 106018-36-4, Hypertrehalosemic hormone (*Blattella discoidalis*) 113800-65-0, Adipokinetic hormone (*Gryllus bimaculatus*) 117107-54-7 118673-77-1, Neuropeptide Fc I (*Simulium microptera corpus cardiacum*) 125009-46-3, Hypotrehalosemic hormone (*Tabanus atratus*) 125666-75-3 129204-82-6, Hypertrehalosemic hormone (*Phormia terraenovae*) 129536-34-1, Adipokinetic hormone (*Musca domestica*) 129612-52-8, Hypertrehalosemic hormone (*Tenebrio molitor*) 133156-05-5, Adipokinetic hormone III (*Locusta migratoria*) 134562-96-2, Adipokinetic hormone (*Empusa pennata*) 134599-16-9 141545-81-5, Hypertrehalosemic hormone 2 (*Polyphaga aegyptiaca*) 142227-33-6 154512-22-8, Adipokinetic hormone (*Anax imperator mauricianus*) 157568-00-8, Adipokinetic hormone (*Ischnura senegalensis*) 160324-96-9, Hypertrehalosemic hormone II (*Platypleura capensis*) 165606-40-6 167425-47-0 167709-43-5 185676-13-5 186825-53-6 224573-17-5, Adipokinetic hormone (*Erythemis simplicicollis*) 304869-13-4

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(adipokinetic hormone and red pigment-cong. hormone peptides potencies in *Locusta migratoria* in acetate uptake assay in vitro and **lipid mobilization** assay in vivo)

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 7 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:488866 HCAPLUS

DOCUMENT NUMBER: 134:347519

TITLE: Mathematical modelling of insect neuropeptide potencies. Are quantitatively predictive models possible?

AUTHOR(S): Lee, H. J.; de Jong, S.; Gad, J.; Poules, C.; Gelsewicz, J. J.

CORPORATE SOURCE: Biotechnology, Unilever Research, Vlaardingen, Vlaardingen, 3120 NL, Neth.

SOURCE: Insect Biochemistry and Molecular Biology (2000), 30(10), 991-997

PUBLISHER: COHEN: INHES; ISSN: 1060-1743

DOCUMENT TYPE: Elsevier Science Ltd.

LANGUAGE: Journal

LANGUAGE: English

AB The potencies of natural adipokinetic hormones and synthetic variants have been detd. in *Locusta migratoria* using the **lipid mobilization** assay in vivo, and/or the acetate uptake assay in vitro. These data are combinations of previously published and unpublished data (a total of sixty-nine analogs), and form data sets for the construction of math. models of the hormone potencies. The sequence variations of amino acids in both natural and artificial adipokinetic hormone analogs were described using continuous descriptor scales z1', z2', and z3', each previously published scale being derived from various properties of the amino acids. By means of these z'-scales and partial least squares regression we attempted to model the potencies in *Locusta migratoria* of adipokinetic hormones in the two assays. Correlations (r2 values) between predicted and actual potencies of the different peptides were up to 0.73. We discuss the potential of the partial least squares method for formulating quant. relationships between different hormone structures and their potencies, and describe how the procedure might be used in structure-activity prediction with the construction of an optimized peptide data set.

IT 37933-92-9 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*) 68016-54-6, Adipokinetic hormone (*Pyrihocoris apterus*) 68016-56-8 90549-76-1, Adipokinetic hormone II (*Schistocerca gregaria*) 93208-51-6, Hypertrehalosemic hormone I (*Periplaneta americana*) 93240-39-2, Hypertrehalosemic hormone II (*Periplaneta americana*) 98968-94-6, Adipokinetic hormone II (*Locusta migratoria*) 99886-31-4, Adipokinetic hormone (*Manduca sexta*) 102067-93-6, Hypertrehalosemic hormone II (*Carausius morosus*) 106018-36-4, Hypertrehalosemic hormone (*Elabera discoidalis*) 113527-32-5 113800-65-0, Adipokinetic hormone (*Gryllus bimaculatus*) 117107-54-7 118673-77-1, Neuropeptide Ro I (*Romalea microptera corpus cardiacum*) 122417-55-4 125009-46-3, Hypotrehalosemic hormone (*Tabanus atratus*) 125666-75-3 129204-82-6, Hypertrehalosemic hormone (*Phormia terrae-novae*) 129536-34-1, Adipokinetic hormone (*Libellula auripennis*) 129612-52-8, Hypertrehalosemic hormone (*Tenebrio molitor*) 133156-05-5, Adipokinetic hormone III (*Locusta migratoria*) 134562-96-2, Adipokinetic hormone (*Empusa pennata*) 134599-16-9 141545-81-5, Hypertrehalosemic hormone 2 (*Polyphaga aegyptiaca*) 142227-33-6 154512-22-8, Adipokinetic hormone (*Anax imperator mauricianus*) 157568-00-8, Adipokinetic hormone (*Ischnura senegalensis*) 160324-96-9, Hypertrehalosemic hormone II (*Platypleura capensis*) 165606-40-6 167425-47-0 167709-43-5 170809-13-9 182749-41-3 182749-43-5 182749-45-7 185676-13-5 186020-59-7 186020-60-0 186825-53-6 191860-55-6 191860-56-7 216259-80-2 224573-17-5, Adipokinetic hormone (*Erythemis simplicicollis*)

292167-15-8 304868-58-4 304868-63-1
304868-65-3 304868-80-2 304868-84-6
304868-86-8 304869-06-5 304869-13-4
304869-17-8 304869-21-4 304874-27-9

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BICL (Biological study)
(math. models for QSAR of adipokinetic hormone analogs in Locusta migratoria)

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 2 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:064897 HCAPLUS
DOCUMENT NUMBER: 133:117490
TITLE: A new member of the AKH/EPCH family that stimulates locomotor activity in the firebug, *Pyrrhocoris apterus* (Heteroptera)
AUTHOR(S): Kodrik, D.; Socha, R.; Simek, P.; Zemek, R.; Goldsworthy, S. L.
CORPORATE SOURCE: Institute of Entomology, Academy of Sciences, Ceske Budejovice, CE-370 03, Czech Rep.
SOURCE: Insect Biochemistry and Molecular Biology (2000), 31(8), 448-458
CODEN: IBSBES; ISSN: 0961-1745
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A new member of the AKH/EPCH family was isolated and identified from the corpora cardiaca of the firebug *Pyrrhocoris apterus*. The peptide was isolated in a single step by reversed phase HPLC and the structure deduced from the multiple MS (ESI) electrospray mass spectra and amino acid anal. as that of an octapeptide with the sequence pGlu-Leu-Asn-Phe-Thr-Pro-Asn-Trp-NH₂; this sequence was confirmed by synthesis. The synthetic peptide induced **lipid mobilization** and stimulated locomotor activity in macropterous females. This peptide, designated as *Pyrrhocoris apterus* adipokinetic hormone (Pya-AKH), is the first identified adipokinetic hormone described in a representative species of the suborder Heteroptera.

IT **68016-54-6P**, Adipokinetic hormone (*Pyrrhocoris apterus*)
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BICL (Biological study); PREP (Preparation)
(adipokinetic hormone isolated from firebug induces **lipid mobilization** and stimulates locomotor activity)

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L23 ANSWER 3 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 2000:095610 HCAPLUS
DOCUMENT NUMBER: 131:345965
TITLE: A novel member of the AKH/EPCH family elucidated by electrospray multiple tandem mass spectrometry: Adipokinetic hormone that stimulates locomotory activity in the firebug, *Pyrrhocoris apterus* (Heteroptera, Insecta)
AUTHOR(S): Simek, Petr; Kodrik, Dalibor
CORPORATE SOURCE: Institute of Entomology, Academy of Sciences of the Czech Republic, Ceske Budejovice, 370 03, Czech Rep.
SOURCE: Collection Symposium Series (1999), 3(Biologically Active Peptides), 51-53
CODEN: CYSFEN
PUBLISHER: Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A novel member of the AKH/EPCH family was isolated and identified from the corpora cardiaca of the firebug *Pyrrocoris apterus*, suborder Heteroptera. Fmoc-ile amts. of the peptide were isotopically reversed phase HPLC and the structure was deduced directly from the multiple MS (MSN) electrospray mass spectra and amino acid anal. It is an octapeptide with the sequence: $\text{pGlu-Ileu-Asn-Phe-Thr-Pro-Asn-Tyr-NH}_2$. The synthetic peptide induced **lipid mobilization** and stimulated locomotory activity in macropterous females.

IT 68016-54-6P, Adipokinetic hormone (*Pyrrocoris apterus*)
 RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(isolation and identification of adipokinetic hormone that stimulates locomotory activity in firebug)

REFERENCE COUNT: 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LEE ANSWER 10 OF 60 HCAPLUS COPYRIGHT 1993 ACS

ACCESSION NUMBER: 2000:91944 HCAPLUS

DOCUMENT NUMBER: 132:234555

TITLE: Stimulation of locomotion in *Pyrrocoris apterus* (Heteroptera: Pyrrhocoridae) is wing-morph independent and correlated with **lipid mobilization** by adipokinetic hormone

AUTHOR(S): Sucha, Radomir; Kodrik, Dalibor; Semek, Rostislav
 CORPORATE SOURCE: Academy of Sciences, Institute of Entomology, Ceske Budejovice, CZ-370 05, Czech Rep.

SOURCE: European Journal of Entomology (1999), 96(4), 459-461
 CODEN: EJENEE; ISSN: 1210-5759

PUBLISHER: Czech Academy of Sciences, Institute of Entomology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The effects of 5 pmol of adipokinetic hormone (Lok-AKH-I) on both the locomotion and **mobilization of lipids** were studied in 10-day-old diapausing adult females of the short-winged (brachypterous) morph of *P. apterus*. AKH stimulation of locomotion in this bug is wing-morph independent. The stimulatory effect of AKH on locomotion was shown to be pos. correlated with its effect on **lipid mobilization**.

IT 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*)
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (locomotion in flightless firebugs is correlated with **lipid mobilization** stimulation by adipokinetic hormone)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LEE ANSWER 11 OF 60 HCAPLUS COPYRIGHT 1993 ACS

ACCESSION NUMBER: 2000:30979 HCAPLUS

DOCUMENT NUMBER: 132:191975

TITLE: Cyclic AMP mediates the elevation of proline by AKH peptides in the coccinellid beetle, *Pachnoda sinuata*

AUTHOR(S): Auerswald, L.; Gade, G.
 CORPORATE SOURCE: Zoology Department, University of Cape Town, Rondebosch, S. Afr.

SOURCE: Biochimica et Biophysica Acta (2000), 1495(1), 78-89
 CODEN: BBACAQ; ISSN: 0006-3002

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The role of cyclic nucleotides in the transduction of the hyperprolinemic and hypertrehalosemic signal of the endogenous neuropeptide Mem-CC was investigated in the cetoniid beetle *Pachnoda sinuata*. Flight and injection of Mem-CC into the hemocoel of the beetle induce an increase of cAMP levels in the fat body of the beetle. This increase is tissue-specific and does not occur in brain and flight muscles. An elevation of cAMP levels was also found when in vitro preps. of fat body tissue were subjected to Mem-CC. Elevation of the cAMP concn. after injection of Mem-CC is time- and dose-dependent: the max. response is measured after 1 min, and a dose of 25 pmol Mem-CC is needed. Injection of opt-cAMP, a cAMP analog which penetrates the cell membrane, causes a stimulation of proline synthesis but no **mobilization** of carbohydrate reserves. The same is measured when IBMX, an inhibitor of phosphodiesterase, is injected. cGMP seems not to be involved in synthesis of proline nor carbohydrate release, because injection of opt-cGMP has no influence on the level of proline, alanine and carbohydrates in the hemolymph. Although **glycogen** phosphorylase of the fat body is activated by Mem-CC in a time- and dose-dependent manner, it cannot be stimulated by opt-cAMP. The combined data suggest that cAMP is involved in regulation of proline levels by Mem-CC but not in regulation of carbohydrates. Octopamine has no effect on metabolites in the hemolymph and is not capable of activating **glycogen** phosphorylase, indicating that it is not involved in the regulation of substrates in this beetle. Furthermore, the requirements of the receptor of Mem-CC are different for eliciting a hypertrehalosemic and a hyperprolinemic effect, resp., suggesting that differentiation in signal transduction begins at the receptor level.

IT 129204-82-6, Int-BrTH 133156-05-5, Dom-AKH-III

134599-16-9, Mem-CC 186020-60-0, Spa-CC-III

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)

cAMP mediates the elevation of proline by AKH peptides in the cetoniid beetle(s)

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 12 OF 60 HCAPLUS COPYRIGHT 2003 AGC

ACCESSION NUMBER: 0000:29325 HCAPLUS

DOCUMENT NUMBER: 132:163656

TITLE: Presence of an adipokinetic peptide in the corpus cardiacum of Dermaptera but not in the neurohemal aorta, and chemical and functional identification of the peptide

AUTHOR(S): Gade, Gerd

CORPORATE SOURCE: Zoology Department, University of Cape Town, Rondebosch, 7701, S. Afr.

SOURCE: Physiological Entomology (1994), 24(4), 327-332

CODEN: PENTDE; ISSN: 0307-6962

PUBLISHER: Blackwell Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Corpora cardiaca of the earwigs *Lepidura riparia* and *Forficula auricularia* contain a substance that causes hyperlipemia in migratory locusts and hypertrehalosemia in the American cockroaches. A conspecific bioassay in *L. riparia* revealed that this factor is **lipid-mobilizing**

. Isolation of the neuropeptide was achieved by single-step RP-HPLC. The primary structure of the earwig adipokinetic peptide was elucidated by automated Edman degradn. in combination with matrix-assisted laser desorption/ionization mass spectrometry. It is a blocked octapeptide, pGlu-Val-Asn-Phe-Ser-Thr-Gly-Trp-NH₂, previously denoted as Grb-AKH and first identified in *Gryllus bimaculatus*. The synthetic peptide co-chromatographed under various conditions with the native peptide and, in biol. assays, resulted in **lipid-mobilization** in *L.*

riparia when injected in low concn.

IT 113800-65-0P, Adipokinetic hormone (*Gryllus bimaculatus*)
 RL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); BRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(adipokinetic peptide in corpus cardiacum of *Derraptera*)

REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 12 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:751063 HCAPLUS

DOCUMENT NUMBER: 132:135112

TITLE: Flight substrates in blister beetles (Coleoptera: Meloidae) and their regulation by neuropeptides of the APH/EPCH family

AUTHOR(S): Gahr, Gerd; Aberswald, Ina

CORPORATE SOURCE: Biology Department, University of Cape Town, Rondebosch, 7701, S. Afr.

SOURCE: European Journal of Entomology (1999), 96(3), 331-335
 CODEN: EJENEH; ISSN: 1210-5759

PUBLISHER: Czech Academy of Sciences, Institute of Entomology

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The authors measured energy substrates in hemolymph and flight muscles of the large blister beetle *Nylabius oculata* at rest and after tethered, lift-generating flight. Flight of 1 min duration at an ambient temp. of 38-42.degree. did not effect a change in the concn. of **lipids** in the hemolymph, whereas a small, significant decrease in the concns. of carbohydrates and a 3-fold larger one in the levels of proline were noted, as well as a concomitant increase in alanine. In the flight muscles, **glycogen** and proline concns. were diminished slightly but significantly upon flight, whereas alanine levels were increased. Two hours of rest after a flight of 1 min completely reversed the metabolic situation in hemolymph and flight muscles to pre-flight levels. The authors could isolate two neuropeptides from the corpora cardiaca of *M. oculata*, which by retention time and mass analyses are characterized as the decapeptide Del-CC (pGlu-Leu-Asn-Phe-Ser-Pro-Asn-Trp-Gly-Asn-NH₂) and the octapeptide Tem-HrTH (pGlu-Leu-Asn-Phe-Ser-Pro-Asn-Trp-NH₂) previously fully identified from the corpora cardiaca of the blister beetle, *Decapotoma lunata*. Subsequently, it was unequivocally demonstrated that low doses of Del-CC and Tem-HrTH elicited increases in the concn. of proline and carbohydrates in the hemolymph of *D. lunata* and *M. oculata*, but did not change the concn. of **lipids** in both species. In conclusion, the two endogenous peptides are hypertrehalosemic and hyperprolinemic, thus very likely regulating the **mobilization** of the two important flight substrates of blister beetles, namely carbohydrates and proline.

IT 129612-52-8, Hypertrehalosemic hormone (*Tenebrio molitor*)
 167425-47-0

RL: BOC (Biological occurrence); BRP (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)

(flight substrates in blister beetles and their regulation by neuropeptides of the APH/EPCH family)

REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 14 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:753062 HCAPLUS

DOCUMENT NUMBER: 132:135076

TITLE: A Mediterranean population of *Pyrrhocoris apterus* (Heteroptera: Pyrrhocoridae) exhibits wing

AUTHOR(S): morph-related differences in adipokinetic response
 Kladrik, Ialimar; Sucha, Radomir
 CORPORATE SOURCE: Institute of Entomology, Academy of Sciences, Ceske
 Budejovice, CZ-370 01, Czech Rep.
 SOURCE: European Journal of Entomology (1999), 96(3), 327-330
 CODEN: ECHNE1; ISSN: 1370-5133
 PUBLISHER: Czech Academy of Sciences, Institute of Entomology
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Short-winged (brachypterous) and long-winged (macropterous) adult females of *P. apterus* originating from a Mediterranean population (Israel) were analyzed for their adipokinetic responses. The adipokinetic response, expressed as an increase of hemolymph **lipids** after injection of adipokinetic hormone from locusts migratoria (Lem-AKH-I), was assessed in relation to age and dose of the hormone. The adipokinetic responses induced by bug's corpora cardiaca ext. and Lem-AKH-I were dose dependent for both brachypterous and macropterous females. Significant differences between the morphs were recorded for doses 10^{-10} mol (0.25 corpora cardiaca equiv. and doses 10^{-10} mol Lem-AKH-I. The hemolymph **lipid** elevations induced in both morphs by 10^{-10} mol Lem-AKH-I are comparable with that induced by crude ext. of 1 pair of the bug's own corpora cardiaca. The age-dependent test showed much higher adipokinetic responses in macropterous females (10^{-10} mol) than in the brachypterous females of the same age, when treated with 10^{-10} mol Lem-AKH-I. Starting from day 7, the concn. of hemolymph **lipids** was also considerably higher (2.5-5 times) in macropterous females than in the brachypterous ones. The obtained data indicate that difference in **mobilization** of **lipids** between brachypterous and macropterous females is a morph-independent feature and represents a true wing morph characteristic of *P. apterus*.

IT 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*)
 FL: BAS (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOD (Biological study)
 (Mediterranean population of flightless firebugs exhibits wing morph-related differences in adipokinetic response)

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LE2 ANSWER 15 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:367921 HCAPLUS
 DOCUMENT NUMBER: 131:155898
 TITLE: Hypertrehalosemic peptides in the honeybee (*Apis mellifera*): purification, identification and function
 AUTHOR(S): Lorenz, Matthias W.; Kellner, Roland; Woodring, Joseph; Hoffmann, Klaus H.; Gade, Gerd
 CORPORATE SOURCE: Department of Animal Ecology 1, University of Bayreuth, Bayreuth, 95440, Germany
 SOURCE: Journal of Insect Physiology (1999), 45(7), 647-653
 CODEN: JIPHPA; ISSN: 0022-1919
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The corpora cardiaca (CC) of the Italian race (including also the Africanized variety) of the honeybee (*A. mellifera ligustica*) contain approx. 1 pmol of a hypertrehalosemic peptide. This peptide is identical in structure to the adipokinetic hormone (AKH) found in *Manduca sexta*, Mas-AKH. The CC of the dark European race of the honeybee (*A. mellifera carnica*) contain no detectable Mas-AKH or any other adipokinetic/hypertrehalosemic peptide. This is the 1st report of the occurrence of this peptide in a non-lepidopteran insect and of an intraspecific variation with regards to the presence or absence of a hypertrehalosemic peptide in the CC of an insect. Exts. of *A. mellifera ligustica* CC elicit a strong adipokinetic/hypertrehalosemic response when

injected into crickets and cockroaches but expts. of *A. mellifera carnica* CC elicit no such responses when injected into crickets, cockroaches, and butterflies. A weak hypertrehalosemic response to injected Hs-AKH was obsd. in winter bees of both races, but there was no response in spring/summer bees. However, if a seasonal difference exists, it is at best minimal. Honeybees always have access to a more than adequate supply of high energy food in the form of nectar or honey stored in the hive. Thus, though *A. mellifera ligustica* CC contain a hypertrehalosemic peptide, there is neither a **glycogen-mobilizing** function of this hormone nor an adequate **glycogen** store in their fat body for its effective utilization.

IT 99886-31-4P, Adipokinetic hormone (*Apis mellifera ligustica*)
 EL: BAC (Biological activity or effector, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PAP (Properties); PUR (Purification or recovery); BIOD (Biological study); OCCU (Occurrence); PREP (Preparation)

(hypertrehalosemic peptide isolation and structural characterization and function in the honeybee)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 16 OF 60 HEADLINE COPYRIGHT 2003 ADS

ACCESSION NUMBER: 19991912.1 H VASQUEZ

DOCUMENT NUMBER: 13 110115

TITLE: Calcium and cAMP are second messengers in the adipokinetic hormone-induced lipolysis of triacylglycerols in *Manduca sexta* fat body

AUTHOR(S): Arrese, Estela L.; Flowers, Matthew D.; Gizard, Justin L.; Wells, Michael A.

CORPORATE SOURCE: Department of Biochemistry and Center for Insect Science, Biological Sciences West, University of Arizona, Tucson, AZ, 85721-0008, USA

SOURCE: Journal of Lipid Research (1999 , 40:6), 656-664
 CODEN: JLRPAA; ISSN: 0022-2775

PUBLISHER: Lipid Research, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We have previously shown that stereospecific hydrolysis of stored triacylglycerol by a phosphorylatable triacylglycerol-lipase is the pathway for the adipokinetic hormone-stimulated synthesis of sn-1, 2-diacylglycerol in insect fat body. The current series of expts. were designed to det. whether cAMP and/or calcium are involved in the signal transduction pathway for adipokinetic hormone in the fat body. After adipokinetic hormone treatment, cAMP-dependent protein kinase activity in the fat body rapidly increased and reached a max. after 20 min, suggesting that adipokinetic hormone causes an increase in cAMP. Forskolin (0.1 μ M), an adenylate cyclase activator, induced up to a 37% increase in the secretion of diacylglycerol from the fat body. 8-Br-cAMP (a membrane-permeable analog of cAMP) produced a 40% increase in the hemolymph diacylglycerol content. Treatment with cholera toxin, which also stimulates adenylate cyclase, induced up to a 145% increase in diacylglycerol prodn. Chelation of extracellular calcium produced 170% inhibition of the adipokinetic hormone-dependent **mobilization of lipids**. Calcium-mobilizing agents, ionomycin and thapsigargin, greatly stimulated DG prodn. by <130%. Finally, adipokinetic hormone caused a rapid increase of calcium uptake into the fat body. Our findings indicate that the action of adipokinetic hormone in **mobilizing lipids** from the insect fat body involves both cAMP and calcium as intracellular messengers.

IT 99886-31-4, Adipokinetic hormone (*Manduca sexta*)
 EL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOD (Biological study)

(calcium and cAMP are second messengers in adipokinetic hormone-induced

lipolysis of triacylglycerols in insect fat body
 REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE FE FORMAT

L22 ANSWER 17 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1999:169729 HCAPLUS

DOCUMENT NUMBER: 130:236468

TITLE: Dragonfly *Erythemis simplicicollis* contains a novel
 adipokinetic neuropeptide

AUTHOR(S): Gade, Gerd; Kellner, Roland

CORPORATE SOURCE: Zoology Department, University of Cape Town,
 Rondebosch, 7701, S. Afr.

SOURCE: Archives of Insect Biochemistry and Physiology (1999),
 49:21, 99-107

COTEN: ALEPER; ISSN: 0739-4461

PUBLISHER: Wiley-Liss, Inc.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We have isolated a novel member of the adipokinetic hormone family of
 peptides from a methanolic ext. of corpora cardiaca of the libellulid
 dragonfly *Erythemis simplicicollis* by using a single-step reversed-phase
 high performance liq. chromatog. method and monitoring biol. activity in
 various heterologous bioassays and a homologous one. The sequence, as
 ded. by Edman degrad. and mass spectrometry, was of an uncharged blocked
 octapeptide: pGlu-Leu-Asn-Phe-Tyr-Phe-Ser-Trp amide. The structure was
 confirmed by chem. synthesis. The synthetic peptide increased hemolymph
 lipids in the dragonfly and was active in another libellulid
 (*Orthetrum julia-falsum*) as well, but to a lesser extent than the
 conspecific peptide Lis-AKH, which is an isoform of the novel peptide
 differing by a Val (instead of Leu) at position 2. Since lipids
 are apparently used as substrate for muscle contraction during flight of
Erythemis simplicicollis and the native peptide induces lipid
 mobilization, this novel peptide is denoted Frs-AKH.

IT 224573-17-5P, Adipokinetic hormone (*Erythemis simplicicollis*)
 FL: BAC (Biological activity or effector, except adverse); BOC (Biological
 occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR
 (Purification or recovery); BIOL (Biological study); OCCU (Occurrence);
 PREP (Preparation)

(adipokinetic neuropeptide isolation and structural characterization
 and its effect on lipid and carbohydrate metab. from dragonfly
Erythemis simplicicollis)

IT 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*)

93208-51-6, Pea-CAH-I 129536-34-1, Lis-AKH

154512-22-8, Ani-AKH 157568-00-8, Adipokinetic hormone
 (*Ischnura senegalensis*)

RL: BAC (Biological activity or effector, except adverse); BSU (Biological
 study, unclassified); BIOL (Biological study)

(adipokinetic neuropeptide isolation and structural characterization
 and its effect on lipid and carbohydrate metab. from dragonfly
Erythemis simplicicollis)

REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE FE FORMAT

L22 ANSWER 18 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:616085 HCAPLUS

DOCUMENT NUMBER: 130:23018

TITLE: Sequences of recently identified adipokinetic
 peptides: what do they tell us with respect to their
 hyperlipemic activity in migratory locusts?

AUTHOR(S): Gade, Gerd

CORPORATE SOURCE: Zoology Department, University of Cape Town,
 Rondebosch, 7701, S. Afr.

SOURCE: Invertebrate Neuroscience (1997), 3(2/3), 217-222

CODEN: INNEFP; ISSN: 1354-2516
 PUBLISHER: Sheffield Academic Press
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Complete dose-response curves for recently identified members of the APE/PECH family (four decapeptides and six octapeptides) have been measured in *Locusta migratoria* and the **lipid-mobilizing** activity *in vivo*. In addition, dose-response curves have been produced for two decapeptide analogs which have a combination of amino acids at position 2 and 3 not occurring in naturally found AKH members. In the decapeptide members changes at position 10 from Thr to Ser are well tolerated, but the combination of Ser at position 5 and 7 around the Pro¹⁰ residue results in lowered activity, and efficacy of only 7%. In the octapeptides a simple Leu¹-Val¹ exchange at position 1 does not change the potency, however Tyr² or Ile² at position 2 lead to at least 3-fold loss activity. The Ser⁵-Pro⁶-Ser⁷ combination in an octapeptide, as in the decapeptide, reduces potency. Octapeptides with 3 arom. amino acids (Phe², Tyr⁴, Trp⁶) show a typical dose-response curve and have low efficacies. The combination of Val¹⁰-Thr³ which has never been found in an octapeptide is tolerated well, but Leu¹⁰-Val³ is not. The latter peptide is rather inactive and has a low efficacy; very likely because the hydrophilicity/hydrophobicity pattern at the N-terminus of the peptide is absent.

IT 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*)
 90549-76-1, Adipokinetic hormone II (*Locusta migratoria gregaria*)
 93240-39-2, Hypertrehalosemic hormone II (*Periplaneta americana*)
 102067-93-6, Hypertrehalosemic hormone II (*Carausius morosus*)
 118673-77-1, Neuropeptide Fc I (*Pomalia microptera corpus cardiacum*) 129536-34-1, Adipokinetic hormone (Libellula auripennis) 133156-05-5, Adipokinetic hormone III (*Locusta migratoria*) 134599-16-9 142227-33-6
 154512-22-8, Adipokinetic hormone (*Anax asperator mauricianus*)
 157568-00-8, Adipokinetic hormone (*Ichnura senegalensis*)
 160324-96-9, Hypertrehalosemic hormone II (*Platypleura sapensis*)
 165606-40-6 167425-47-0 167709-43-5
 185676-13-5 186020-59-7 186020-60-0
 186825-53-6 216259-80-2

FL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); FEP (Properties); BIOL (Biological study)
 (adipokinetic peptides structure-activity in respect to their hyperlipemic activity in migratory locust)

REFERENCE COUNT: 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 19 OF 60 HCAPLUS COPYRIGHT 1993 ACS

ACCESSION NUMBER: 1998:554941 HCAPLUS

DOCUMENT NUMBER: 129:258004

TITLE: The phospholipase C signaling pathway in locust fat body is activated via Gq and not affected by cAMP

AUTHOR(S): Vredemen, Simon F.; De Jonge, Hugo; Van Marrewijk, Wil J. A.; Van Der Horst, Dick J.

CORPORATE SOURCE: Department of Experimental Ecology, Biochemical Physiology Research Group, Utrecht University, Utrecht, NL-3584, Neth.

SOURCE: Insect Biochemistry and Molecular Biology (1998), 28(7), 433-440

CODEN: IBMBES; ISSN: 0969-1744

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB We have studied the signaling mechanisms of 3 locust adipokinetic hormones (AKHs), which control **mobilization** of energy reserves from insect fat body as fuels for flight and transduce their signals via

adenylyl cyclase- and phospholipase C- (PLC) dependent pathways. In this study, we examine possible crosstalk between these signaling routes. We show that cAMP does not affect basal and AKH-stimulated inositol phosphate (InsPn) prodn. Incubation of fat body with aluminum fluoride, an activator of G proteins, increased InsPn levels by 77%, whereas cholera toxin and pertussis toxin were ineffective. This implies that fat body PLC is not activated by G β - γ , but possibly by Gq α . The involvement of this G protein in AKH signaling was demonstrated by our observation that the GF Antagonist-1A, which antagonizes Gq, attenuated **glycogen** phosphorylase activation by AKH-1. As plasma membrane Ca $^{2+}$ channels may constitute another target for cAMP-mediated modulation, we studied the type of channels involved in AKH signaling using a variety of L-, N-, and T-type Ca $^{2+}$ channel inhibitors. None of these blocked AKH-induced **glycogen** phosphorylase activation, suggesting that voltage-dependent Ca $^{2+}$ channels do not mediate AKH-induced Ca $^{2+}$ influx.

IT 61627-67-6, Adipokinetic hormone-I (*Locusta migratoria*)
 98968-94-6, Adipokinetic hormone-II (*Locusta migratoria*)
 133156-05-5, Adipokinetic hormone-III (*Locusta migratoria*)
 FL: EAC (Biological activity in effector, except converter); BSH (Biological study, unclassified); BIL (Biological study)
 (phospholipase C signaling pathway in insect fat body is activated via Gq and not affected by cAMP)
 REFERENCE COUNT: 53 THERE ARE 53 OTHER REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE REFORMAT

L22 ANSWER 20 OF 60 NCBIUS COPYRIGHT 2003 ATZ
 ACCESSION NUMBER: 1998:476049 NCBIUS
 DOCUMENT NUMBER: 129:208444
 TITLE: Flight metabolism in carpenter bees and primary structure of their hypertrehalosemic peptide
 AUTHOR(S): Gade, Gerd; Auerwald, Lutz
 CORPORATE SOURCE: Zoology Department, University Cape Town, Rondebosch, 7701, S. Afr.
 SOURCE: Experimental Biology Online [Electronic Publication] (1998), 3, No pr. given Article 6
 CODEN: EREPPF; ISSN: 1430-3418
 URL: <http://link.springer.de/link/service/journals/00898fpapers/8603001/80010006.htm>
 PUBLISHER: Springer-Verlag
 DOCUMENT TYPE: Journal; (online computer file)
 LANGUAGE: English

AB We measured the rate of O consumption and CO $_2$ prodn. as well as energy substrates in hemolymph and flight muscles of carpenter bees of the genus *Xylocopa* at rest and after tethered lift-generating flight. Flight of 2 min duration at an ambient temp. of 28 degree elevated O consumption approx. 70-fold above resting rate. The P $_O$ during rest and flight was 1 indicating that carbohydrates were the exclusive substrate oxidized. This was corroborated by measurements of metab. Carbohydrates are in high concns. in the hemolymph. This store was significantly diminished during a 10-min flight period. Whereas **lipids** did not contribute to energy provisions, the proline concn. in the hemolymph and in the flight muscles was significantly decreased upon flight, but the amt. can only account for a very small contribution to overall flight metab. Polysaccharide reserves in flight muscles and whole abdomina are almost non-existent. However, earlier studies had identified the crop as a source of oligosaccharides (Louw, G. H. and Nicolson, S. W., 1993). Carbohydrate metab. is influenced by a metabolic peptide from the corpus cardiacum. We isolated a peptide from the corpora cardiaca of carpenter bees, which by retention time in HPLC and by its mass is very likely characterized as the octapeptide Scg-AKH-II (pGlu-Leu-Asn-Phe-Ser-Thr-Gly-Trp-NH $_2$) previously shown to occur in certain Orthoptera. This is the 1st member of the large AKH/RPCH family of peptides to be identified from a hymenopteran species. Injection of the synthetic peptide into adult

carpenter bees caused carbohydrate **mobilization**. We suggest that the peptide targets the high sugar stores in the crop and speculate that it may facilitate sugar passage rate through the digestive system.

IT 90549-76-1P, Adipokinetic hormone II (*Schistocerca gregaria*)
 FL: BAC (Biological activity or effector, except adverse); BCC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BLOL (Biological study); OCCU (Occurrence); PREP (Preparation)
 (Flight metab. in carpenter bees and primary structure of hypertrehalosemic peptide)

L22 ANSWER 11 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1998:41717 HCAPLUS
 DOCUMENT NUMBER: 199:18-119
 TITLE: The molecular conformations of representative arthropod adipokinetic peptides determined by circular dichroism spectroscopy
 AUTHOR(S): Cusinato, Ornella; Drake, Alex F.; Gade, Gerd; Gildsworthy, Graham J.
 CORPORATE SOURCE: Department Biology, Birkbeck College, London, WC1E 7HX, UK
 SOURCE: Insect Biochemistry and Molecular Biology (1998), 28(1), 41-52
 CODEN: IBIRES; ISSN: 0961-1748
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The secondary structure of six members of the AKH/EPCH family of arthropod neuropeptides has been studied by CD spectroscopy. None of the peptides examd. shows a clear ordered conformation in aq. soln., pH 7.5 at room temp. At low temps. in ethanol:aq. buffer (1:1, pH 7.5), however, a III extended conformation becomes apparent in all the peptides tested. For the peptides that are most active in the **lipid mobilization** assay, interaction with SDS micelles induces the formation of a .beta.-structure.

IT 37933-92-9 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*) 98968-94-6, Adipokinetic hormone II (*Locusta migratoria*) 99886-31-4, Adipokinetic hormone (*Manduca sexta*) 102067-93-6, Hypertrehalosemic hormone II (*Carausius morosus*) 113800-65-0, Adipokinetic hormone (*Gryllus bimaculatus*) 211030-29-4, 2-10-Hypertrehalosemic hormone II (*Carausius morosus*)
 FL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); PRP (Properties); BLOL (Biological study)
 (conformations of representative arthropod adipokinetic peptides detd. by CD spectroscopy and correlated with biol. activity)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L22 ANSWER 32 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:778661 HCAPLUS
 DOCUMENT NUMBER: 118:59573
 TITLE: **Mobilization of lipid and carbohydrate reserves in the migratory grasshopper *Melanoplus sanguinipes***
 AUTHOR(S): Kent, Jack W., Jr.; Teng, Yueh-Mei; Deshpande, Dipa; Rankin, Mary Ann
 CORPORATE SOURCE: Division of Biological Sciences and Department of Zoology, The University of Texas at Austin, Austin, TX, 78712, USA
 SOURCE: Physiological Entomology (1997), 22(3), 231-238
 CODEN: PENTDE; ISSN: 0307-6962
 PUBLISHER: Blackwell Science Ltd.
 DOCUMENT TYPE: Journal

LANGUAGE: English

AB The North American migratory grasshopper *Melanoplus sanguinipes* Fabricius (Orthoptera: Acrididae) exhibits heritable variation in predisposition to make long-duration flights, and performance of long-duration flight enhances reproductive output. As a first step in understanding the physiol. basis of these phenomena, we examd. the **mobilization of lipid** and carbohydrate reserves during flight and in response to injection of exts. of the corpora cardiaca. Ext. of conspecific corpora cardiaca elevates the concn. of hemolymph **lipid**. Both synthetic locust adipokinetic hormone I (AKH I) and synthetic *Locusta migratoria* AKH II raise the concn. of **lipid** in the hemolymph. However, although AKH I is more active than AKH II in locusts, dose-response curves for the two peptides are similar in *M. sanguinipes*. Neither ext. of conspecific corpora cardiaca nor locust AKH I affects hemolymph carbohydrate in this species. Hemolymph carbohydrate and total **glycogen** reserves are diminished by tethered flight; in contrast, hemolymph **lipid** is elevated by flight. Grasshoppers identified as presumptive migrants or non-migrants do not differ significantly in body compn. Total **lipid** reserves did not decrease measurably after extended flight, even though total reserves of carbohydrate do not appear to be sufficient to maintain the durations of flight performed.

IT 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*)
 98968-94-6, Adipokinetic hormone II (*Locusta migratoria*)
 RL: BAC (Biological activity or effectors, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 lipid and carbohydrate reserve **mobilization** in the migratory grasshopper.

L22 ANSWER 23 OF 40 HCAPLUS COPYRIGHT 1983 ACS

ACCESSION NUMBER: 1997:746757 HCAPLUS

DOCUMENT NUMBER: 129:59557

TITLE: Isolation and characterization of *Melanoplus sanguinipes* adipokinetic hormone: a new member of the AKH/REH family

AUTHOR(S): Taub-Montemayor, Tina E.; Linse, Klaus D.; Rankin, Mary Ann

CORPORATE SOURCE: Department of Ecology, University of Texas at Austin, Austin, TX, 78712-1164, USA

SOURCE: Biochemical and Biophysical Research Communications (1997), 233(3), 763-768
 COLEN: BBRCA9; ISSN: 0006-291X

PUBLISHER: Academic Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A neuropeptide hormone isolated from corpora cardiaca of *Melanoplus sanguinipes* was purified by HPLC. The HPLC fractions were examd. for adipokinetic activity with an *in vivo* bioassay. A single large UV absorbent peak was active in the **mobilization of lipid** while the other HPLC fractions showed no detectable activity. This large peak had a retention time and amino acid compn. identical to synthetic Iom-AKH-I which was analyzed in a parallel manner. The primary sequence structure, pGlu-Leu-Asn-Phe-Thr-Pro-Asn-Trp-Gly-Thr-NH₂, was detd. by automated gas-phase Edman degradn. The peptide was deblocked prior to sequencing using pyroglutamate aminopeptidase and the sequence was confirmed with mass spectrometry. The C-terminus of the peptide was detd. to be blocked, as indicated by the lack of digestion with carboxypeptidase A. The knowledge of the primary sequence of Mes-AKH allows the use of a com. available synthetic peptide and its antibodies for use in future research with *Melanoplus sanguinipes*.

IT 61627-67-6P, Adipokinetic hormone I (*Locusta migratoria*)
 FL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(adipokinetic hormone isolation and structural characterization from the corpora cardiaca of migratory grasshopper *Melanoplus sanguinipes*)

L22 ANSWER 24 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:434208 HCAPLUS
DOCUMENT NUMBER: 127:106-4
TITLE: Differential induction of inositol phosphate metabolism by three adipokinetic hormones
AUTHOR(S): Vroemen, Simon F.; Van Marrewijk, Wil J. A.; De Meijer, Jaap; Van den Broek, Aloys Th. M.; Van der Horst, Dick J.
CORPORATE SOURCE: Dep. Exptl. Ecology, Biochemical Physiology Research Group, Utrecht Univ., Utrecht, 3584 CE, Neth.
SOURCE: Molecular and Cellular Endocrinology (1997), 130(1,2), 131-139
CODEN: MOCNEG; ISSN: 0304-3820
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB In the locust each of 3 adipokinetic hormones (AKHs) is capable of controlling **mobilization** of carbohydrate and **lipid** from fat body stores, but it is unclear why 3 AKHs coexist. We now demonstrate disparities in the signal transduction of these hormones. Massive doses of the AKHs stimulated total inositol phosphate (InsPn) prodn. in the fat body biphasically, but time courses were different. Inhibition of phospholipase C (PLC) resulted in attenuation of both InsPn synthesis and **glycogen** phosphorylase activation. The AKHs evoked differential formation of individual [3H]InsPn isomers (InsP1-6), the effect being most pronounced for InsP1. AKH-I and -III at 40 nM induced a substantial rise in total InsPn and [3H]InsP1 at short incubations, whereas the AKH-II effect was negligible. At a more physiol. dose of 4 nM, the AKHs equally enhanced Ins(1,4,5)P3 levels. The InsP1 effect was most prolonged for AKH-III. These subtle differences in InsPn metab., together with earlier findings on differences between the AKHs, support the hypothesis that each AKH exerts specific biol. functions in the overall syndrome of energy **mobilization** during flight.

IT 133156-05-5, LOM-AKH-III

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(differential induction of inositol phosphate metab. in fat body of locust by 3 adipokinetic hormones)

L21 ANSWER 25 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:376332 HCAPLUS
DOCUMENT NUMBER: 127:78894
TITLE: N-terminal modifications of AKH-I from *Locusta migratoria*: assessment of biological potencies in vivo and in vitro
AUTHOR(S): Lee, Michael C.; Cusinato, Ornella; Luswata, Rebecca; Wheeler, Colin H.; Goldsworthy, Graham J.
CORPORATE SOURCE: Dep. Biology, Birkbeck College, Univ. London, London, WC1E 7EX, UK
SOURCE: Regulatory Peptides (1997), 69(2), 69-76
CODEN: REPPDY; ISSN: 0167-0115
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

AB To investigate the receptor tolerances to N-terminal variation, novel analogs to *Locusta* AKH-I (adipokinetic hormone) have been synthesized with modifications at the N-terminus. Analogs were made where the N-terminal pyroglutamyl residue was spaced further from the remainder of the mol. by the insertion of glycine residues between either pGlu1 and Leu2 (Gly1a-AKH-I) or Leu2 and Asn3 (Gly2a-AKH-I and Gly2ab-AKH-I). Other

modified hormones with N-terminal extensions were: (Ahx)n-AKH-I (Ahx, aminohexanoic acid); HPP(Ahx)n-AKH-I (HPP, hydroxyphenyl propionate) and Ac(Ahx)n-AKH-I (where n = 0-3). Finally, acetylated and nonacetylated amino acids were substituted for pGlu1: Glu, Pro, Ala and Tyr. The effects of these modifications on biol. potency were tested in the **lipid mobilization** assay *in vivo* and acetate uptake assay *in vitro*. The potency of AKH-I was reduced much more by insertion of glycine between pGlu1 and Leu2, than between Leu2 and Asn3, perhaps suggesting that a hydrophobic residue is required adjacent to the pGlu for biol. activity. In addn., a residue N-terminal to Leu2 is necessary for activity (i.e., [Des-pGlu]-AKH-I is inactive) unless the free N-terminus is acetylated: Ac[Des-pGlu]-AKH-I is active, but has low potency. The potencies of HPP(Ahx)0-3-AKH-I, Ac(Ahx)1-3-AKH-I and glycine-inserted analogs decreased consistently with increasing extension of the N-terminus away from the remainder of the mol. However, potencies of the unblocked (Ahx)n-AKH-I analogs did not, and potency in either assay did not appear related to the no. of aminohexanoic residues. Similarly, while hormonal activity was retained by substitution of pGlu1 by Tyr, Pro, Ala or Glu in both assays, acetylation of the resulting analogs did not provide a consistent increase in potency, but actually decreased for AcGlu1-AKH-I compared with its unblocked analog. HPP1-AKH-I was the most potent of the modified peptides tested, with almost the same potency in the assay *in vitro* as the natural peptide.

IT 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*)
 106018-36-4, Hypertrenalosemic hormone (*Blaberus discoidalis*)
 110518-70-2 113527-32-5 161389-37-3
 186082-75-7 186144-10-5, 1-10-Adipokinetic hormone I
 (*Locusta migratoria*) 191860-52-3 191860-55-6
 191860-56-7 191860-57-8 191860-58-9
 191860-59-0 191860-60-3 191860-61-4
 191860-62-5 191860-63-6 191860-64-7
 191860-65-8 191860-66-9 191860-67-0
 191860-68-1 191860-69-2 191860-70-5
 191860-71-6
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOC (Biological study)
 (N-terminal modifications of AKH-I from *Locusta migratoria*: assessment of biol. potencies *in vivo* and *in vitro*)

L22 ANSWER 16 OF 60 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1997:119155 HCAPLUS
 DOCUMENT NUMBER: 127:74929
 TITLE: Modified adipokinetic peptides containing two tryptophan residues and their activities *in vitro* and *in vivo* in *Locusta*
 AUTHOR(S): Lee, M. J.; Goldsworthy, G. J.
 CORPORATE SOURCE: Birkbeck College, University London, London, WC1E 7HX, UK
 SOURCE: Journal of Comparative Physiology, B: Biochemical, Systemic, and Environmental Physiology (1996), 166(1), 61-67
 CODEN: JPBPDJ; ISSN: 0174-1578
 PUBLISHER: Springer
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The hypothesis was tested that the high *in vitro* potency of *L. migratoria* adipokinetic hormone-III is due to the presence of Trp¹, not seen in any other adipokinetic hormone, together with the Trp⁶ characteristic of these hormones. Novel peptides were synthesized to include or remove this structural motif and tested *in vitro* and *in vivo*. Except for Trp⁷-adipokinetic hormone-I in the acetate uptake assay, each analog is less potent than its resp. parent. The acetate uptake response is highly tolerant of peptides contg. Trp⁷-Trp⁸, whereas this motif markedly reduces

potency in the lipid assay.

- IT 61627-67-6, Adipokinetic hormone I (Locusta migratoria)
 68016-54-6, Adipokinetic hormone (Pyrrhocoris apterus)
 98968-94-6, Adipokinetic hormone II (Locusta migratoria)
 113800-65-0, Adipokinetic hormone (Gryllus bimaculatus)
 133156-05-5, Adipokinetic hormone III (Locusta migratoria)
 182749-41-3 182749-43-5

RE: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
 (adipokinetic peptides contg. two tryptophan residues and their activities in Locusta)

LE2 ANSWER 27 OF 60 HCAPLUS COPYRIGHT 2003 ADS

ACCESSION NUMBER: 1997:31646 HCAPLUS

DOCUMENT NUMBER: 126:156157

TITLE: Hyperprolinemia caused by novel members of the adipokinetic hormone/red pigment-concentrating hormone family of peptides isolated from corpora cardiaca of onitine beetles

AUTHOR(S): Gade, Gerd

CORPORATE SOURCE: Dept. Zool., Univ. Cape Town, Rondebosch, 7700, S. Afr.

SOURCE: Biochemical Journal (1997), 311(1), 201-206

CIEN: BIOCAB; ISSN: 0264-6021

PUBLISHER: Portland Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two novel members of the adipokinetic hormone/red pigment-conc. hormone family of peptides were identified in dung beetles of the genus Onitis using heterologous (measuring lipid and carbohydrate mobilization in locusts and cockroaches) and a homologous (measuring proline increase in the hemolymph bioassay(s)). Isolation of the peptides was achieved by single-step reverse-phase HPLC of corpora cardiaca exts. The primary structure was elucidated by automated Edman degrad. and by electrospray MS. Both peptides are blocked decapeptides contg. 3 arom. amino acids. The 1st peptide, designated Ona-CC-I, is pGlu-Tyr-Asn-Phe-Ser-Trp-Gly-Trp-NH2, and the other peptide, designated Ona-CC-II, is pGlu-Phe-Asn-Tyr-Ser-Pro-Asp-Trp-NH2. The synthetic peptides were chromatog. indistinguishable from the natural compds. They both had a hyperprolinemic effect in the dung beetle. Moreover, flight expts. established that proline is an important fuel to power flight metab. in Onitis species. Therefore, it is concluded that these novel and unique peptides are involved in regulating proline-based flight metab.

- IT 186020-59-7P, Ona-CC-II 186825-53-6P, Ona-CC-I

PL: BAC (Biological activity or effect, except adverse); BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); PUR (Purification or recovery); BIOL (Biological study); OCCU (Occurrence); PREP (Preparation)

(hyperprolinemia caused by adipokinetic hormone/red pigment-conc. hormone family of peptides from corpora cardiaca of onitine beetles)

LE2 ANSWER 28 OF 60 HCAPLUS COPYRIGHT 2003 ADS

ACCESSION NUMBER: 1997:31604 HCAPLUS

DOCUMENT NUMBER: 126:87331

TITLE: Pyrgomorphid grasshoppers of the genus Phymateus contain species-specific decapeptides of the AKH/RPCH family regulating lipid-mobilization during flight

AUTHOR(S): Gade, Gerd; Kellner, Roland; Rinenart, Kenneth L.

CORPORATE SOURCE: Zoology Department, University Cape Town, Rondebosch, 7700, S. Afr.

SOURCE: Physiological Entomology (1996), 21(3), 193-202

CIEN: PENTDE; ISSN: 0307-6962

PUBLISHER: Blackwell

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Using heterologous and conspecific bioassays, two peptides have been isolated from methanolic exts. of corpora cardiaca from the pyrgomorphid grasshopper *Phymateus corbillozus* L. The structures of both peptides were elucidated by a combination of Edman degradn., after de-blocking the N-terminal pyroglutamic acid residue, and mass spectrometric techniques. One peptide is an octapeptide (pGlu-Leu-Asn-Phe-Ser-Thr-Gly-TrpNH₂) which also occurs in other insects and is code-named Sog-AKH-II. The second peptide is a novel decapeptide member of the AKH/RPCH family (pGlu-Leu-Asn-Phe-Thr-Ile-Asn-Trp-Gly-SerNH₂) code-named here Phm-AKH. It is the first example of a different peptide in the same genus. The anal. of changes of metabolites in the haemolymph, fat body and flight muscles of male *P. corbillozus* during a 30 min flight and rest after flight reveal an overall picture of flight metab. similar to that of *Locusta migratoria*. Carbohydrate-fueled metab. is pronounced during the first 15 min of flight, whereas lipid-based metab. is mainly used thereafter. By analogy with work on *L. migratoria*, it is concluded that the endogenous peptides of *P. corbillozus* regulate these metabolic events.

IT 90549-76-1, Adipokinetic hormone II (*Gonistocerca gregaria*)
 185676-13-5

FI: BAZ Biological activity or effector, except adverse; BOC Biological occurrence; BSU Biological study, unclassified; BICL Biological study; OCCO Occurrence

pyrgomorphid grasshoppers of genus *Phymateus* contain species-specific decapeptides of AKH/RPCH family regulating **lipid-mobilization** during flight

L22 ANSWER 29 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1997:15:29 HCAPLUS

DOCUMENT NUMBER: 110:115891

TITLE: Synthesis and biological activity of adipokinetic hormone analogs modified at the C-terminus

AUTHOR(S): Lee, Michael J.; Goldsworthy, Graham J.; Poulos, Constantine F.; Valentini, Anastasia

CORPORATE SOURCE: Dep. Biol., Birkbeck Coll., Univ. London, London, WC1E 7HX, UK

SOURCE: Peptides (Tarrytown, New York) (1996), 17(8), 1285-1290

CODEN: EPTDD5; ISSN: 0196-9731

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A series of *Locusta* adipokinetic hormone I (AKH-I, -QLNFTFNWGTa, analogs were synthesized with modifications at the C-terminal threonine residue using a combination of solid- and liq.-phase methodol. and evaluated in *Locusta migratoria*, in a **lipid mobilization** assay in vivo and an acetate uptake assay in vitro. Modifications at Thr10 of AKH-I involved replacement of its C-terminal amide by the groups -OH, -OCH₃, -NHCH₃, -N(CH₃)₂, and -NHC(=O)H₅; the last three groups were also applied to the amide of AKH-I-[Thr(=O)10]. The Me ester, monomethyl, and di-Me analogs were all of lower activity than the parent in the **lipid mobilization** assay, but lost less than two orders of potency. In the acetate uptake assay, again the Me ester analog showed the greatest retention of biol. activity of all modified peptides. A cyclic analog, cyclo(PLNFTFNWGT), was active in both assays, but only at very high concns. Almost all analogs were more active in the acetate uptake assay than in the **lipid** assay, but unusually, AKH-I-NHCH₃ and AKH-I-N(CH₃)₂, together with cyclo(PLNFTFNWGT), were more active in the **lipid mobilization** assay. In addn., the acid AKH-I analog did not suffer as large a loss in potency in the **lipid mobilization** assay as in the acetate uptake assay, although it was less potent in the former. The relative potencies of

these two Me analogs contrast with those for AKH-I-[Thr(Bzl)10]-NHCH₃ and AKH-I-[Thr(Bzl)10]-N(CH₃)₂, which, together with both Ph analogs, were significantly more active in the acetate uptake assay. The authors conclude that the acetate uptake assay has a greater preference for a hydrophobic C-terminus, compared with the **lipid mobilization** assay.

IT 61627-67-6D, Adipokinetic hormone I (*Locusta migratoria*), analogs
161235-27-4 186082-60-0 186082-61-1
186082-62-2 186082-63-3 186082-66-6
186082-71-3 186082-73-5 186082-74-6
186082-75-7

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BPP (Properties); BLS (Biological study) (biol. activity and structure of adipokinetic hormone I analogs modified at C-terminus)

L22 ANSWER 30 OF 60 HCABLUS COPYRIGHT 1993 ACS

ACCESSION NUMBER: 1990:444311 HCABLUS

DOCUMENT NUMBER: 1331561

TITLE: Locust adipokinetic hormones: carrier-independent transport and differential inactivation at physiological concentrations during rest and flight
AUTHOR(S): Soga, S. H. M.; Vroemen, Simon F.; Jansen, Fred F. R.; Van der Horst, Dick J.
CORPORATE SOURCE: Dep. Exptl. Sci., Utrecht Univ., Utrecht, NL3584, Neth.

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1996), 93(16), 8654-8659
COPEN: EMASAC; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Since concomitant release of structurally related peptide hormones with apparently similar functions seems to be a general concept in endocrinol., the authors have studied the dynamics of the lifetime of the three known adipokinetic hormones (AKHs) of the migratory locust, which control flight-directed **mobilization** of carbohydrate and **lipid** from fat body stores. Although the structure of the first member of the AKHs has been known for 20 yr, until now, reliable data on their inactivation and removal from the hemolymph are lacking, because measurement requires AKHs with high specific radioactivity, obtained by catalytic redn. with tritium gas of the dehydroLeu2 analogs of the AKHs synthesized by the solid-phase procedure, studies with physiol. doses of as low as 1.0 pmol per locust could be conducted. The AKHs appear to be transported in the hemolymph in their free forms and not assocd. with a carrier protein, despite their strong hydrophobicity. Application of AKHs in their free form in vivo and in vitro studies therefore now has been justified. The authors have studied the degradn. of the three AKHs during rest and flight. The first cleavage step by an endopeptidase is crucial, since the resulting degradn. products lack any adipokinetic activity. Half-lives for AKH-I, -II and -III were 51, 40, and 5 min, resp., for rest conditions and 35, 37, and 3 min, resp., during flight. The rapid and differential degradn. of structurally related hormones leads to changes in the ratio in which they are released and therefore will have important consequences for concerted hormone action at the level of target organ or organs, suggesting that each of the known AKHs may play its own biol. role in the overall syndrome of insect flight.

IT 61627-67-6, Locust adipokinetic hormone I 98968-94-6,
Locust adipokinetic hormone II 133156-05-5, Locust adipokinetic hormone III

RL: BPP (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(carrier-independent transport and differential inactivation of locust

adipokinetic hormones at physiol. concns. during rest and flight)

L22 ANSWER 30 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1996:498811 HCAPLUS

DOCUMENT NUMBER: 123:191161

TITLE: Locust adipokinetic hormones: carrier-independent transport and differential inactivation at physiological concentrations during rest and flight
 AUTHOR(S): Gadejans, Rob D. H. M.; Vroemen, Simon F.; Jansen, Ruud F. R.; Van der Horst, Dick J.
 CORPORATE SOURCE: Dep. Exptl. Zool., Utrecht Univ., Utrecht, NL3584, Netherlands.

SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1996), 93(16), 8654-8659
 CODEN: PNASA6; ISSN: 0027-8424

PUBLISHER: National Academy of Sciences

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 61627-67-6, Locust adipokinetic hormone I 98968-94-6,
 Locust adipokinetic hormone II 133156-05-5, Locust adipokinetic hormone III

RL: EPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); EPRC (Process
 (carrier-independent transport and differential inactivation of locust adipokinetic hormones at physiol. concns. during rest and flight)

L22 ANSWER 31 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:646884 HCAPLUS

DOCUMENT NUMBER: 123:165338

TITLE: Isolation and identification of AKH/RPCH family peptides in blister beetles (Ebeloidae)

AUTHOR(S): Gaue, Gerd

CORPORATE SOURCE: Zoology Department, University Cape Town, Rondebosch, 7700, S. Afr.

SOURCE: Physiological Entomology (1995), 20(1), 45-51
 CODEN: PENTDE; ISSN: 0307-6962

PUBLISHER: Blackwell

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 129612-52-8, Hypertrehalosemic hormone (Tenebrio molitor)

167425-47-0

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
 (isolation and identification of AKH/RPCH family peptides in blister beetles)

L22 ANSWER 32 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:639774 HCAPLUS

DOCUMENT NUMBER: 123:194061

TITLE: Isolation and primary structures of neuropeptides of the AKH/RPCH family from various termite species

AUTHOR(S): Liebrich, Walter; Kellner, Roland; Gaede, Gerd

CORPORATE SOURCE: Zoology Department, University of Cape Town, Rondebosch, S. Afr.

SOURCE: Peptides (Tarrytown, New York) (1995), 16(4), 559-64
 CODEN: PPTDD5; ISSN: 0196-9781

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 93208-51-6, Pea-CAH-I 167709-43-5, Miv-CC

(Microhodotermes viator corpus cardiacum peptide)

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); OCCU (Occurrence)
(neuropeptide isolation and structural characterization from termites)

LE2 ANSWER 33 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:03167 HCAPLUS
DOCUMENT NUMBER: 1995:014
TITLE: Signal transduction of adipokinetic hormones involves Ca^{2+} fluxes and depends on extracellular Ca^{2+} to potentiate cAMP-induced activation of glycogen phosphorylase
AUTHOR(S): Vroemen, J. F.; Van Marrewijk, W. J. A.; Schepers, C. G. J.; Van Der Horst, D. J.
CORPORATE SOURCE: Dep. Experiment Ecology, Utrecht Univ., Utrecht, Neth.
SOURCE: C-11 Calcium (1993), 17(6), 459-67
CODEN: CECADV; ISSN: 1143-4161
PUBLISHER: Churchill Livingstone
DOCUMENT TYPE: Journal
LANGUAGE: English

IT 133156-05-5, Adipokinetic hormone III (Locusta migratoria)
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(adipokinetic hormone activates calcium transport to potentiate cAMP-induced activation of glycogen phosphorylase in fat body of grasshopper)

LE2 ANSWER 34 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:037751 HCAPLUS
DOCUMENT NUMBER: 1995:129070
TITLE: Stimulation of glycogenolysis by three locust adipokinetic hormones involves Gs and cAMP
AUTHOR(S): Vroemen, Simon F.; Van Marrewijk, Wil J. A.; Van der Horst, Dick J.
CORPORATE SOURCE: Department of Experimental Ecology, Biochemical Physiology Research Group, Utrecht University, Padualaan 4, CH Utrecht, 3504, Neth.
SOURCE: Molecular and Cellular Endocrinology (1994), 107(2), 165-71
CODEN: MCEND6; ISSN: 0303-7207
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

IT 61627-67-6, Locust adipokinetic hormone I 98968-94-6,
Locust adipokinetic hormone II 133156-05-5, Locust adipokinetic hormone III
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(stimulation of glycogenolysis by three locust adipokinetic hormones involves Gs and cAMP)

LE2 ANSWER 35 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1995:05536 HCAPLUS
DOCUMENT NUMBER: 1995:161345
TITLE: Synthesis and biological activity of locust AKH-I and its analogs with modifications at the threonine residues
AUTHOR(S): Poulos, Constantine; Karagiannis, Kostas; Lee, Michael; Goldsworthy, Graham
CORPORATE SOURCE: Dep. Chem., Univ. Patras, Patras, Greece
SOURCE: International Journal of Peptide & Protein Research (1994), 44(6), 5-9-93
CODEN: IJPPC3; ISSN: 0367-8377

PUBLISHER: Munksgaard
DOCUMENT TYPE: Journal
LANGUAGE: English

IT 161235-26-3P 161235-28-5P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); ECT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and biol. activity of locust AKH-I and its analogs with modifications at the threonine residues)

IT 61627-67-6P, Adipokinetic hormone I (*Locusta migratoria*)
161235-27-4P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis and biol. activity of locust AKH-I and its analogs with modifications at the threonine residues)

IT 161235-25-2P
RL: ECT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and biol. activity of locust AKH-I and its analogs with modifications at the threonine residues)

IT 161235-35-4P
RL: SPN (Synthetic preparation); PREP (Preparation)
(synthesis and biol. activity of locust AKH-I and its analogs with modifications at the threonine residues)

L22 ANSWER 36 OF 60 HCAFLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1994:555684 HCAFLUS

DOCUMENT NUMBER: 121:153684

TITLE: A novel adipokinetic octapeptide found in the damselflies *Pseudagrion inconspicuum* and *Ischnura senegalensis*

AUTHOR(S): Janssens, Markus P.-E.; Kellner, Roland; Gade, Gerd
CORPORATE SOURCE: Zoology Department, University Cape Town, Rondebosch, 7700, S. Afr.

SOURCE: Biochemical Journal (1994), 302(2), 539-43

CODEN: BJOCAR; ISSN: 0164-6021

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 157568-00-8, Adipokinetic hormone (*Pseudagrion inconspicuum*)
RL: BIOL (Biological study)
(amino acid sequence and biol. activity of)

L22 ANSWER 37 OF 60 HCAFLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1993:513874 HCAFLUS

DOCUMENT NUMBER: 119:113874

TITLE: Structure-activity relationships for the lipid-mobilizing action of further bioanalogs of the adipokinetic hormone/red pigment-concentrating hormone family of peptides

AUTHOR(S): Gade, Gerd
CORPORATE SOURCE: Zool. Dep., Univ. Cape Town, Rondebosch, 7700, S. Afr.
SOURCE: Journal of Insect Physiology (1993), 39(5), 375-83

CODEN: JIPHAF; ISSN: 0022-1910

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*)
117107-54-7 125009-46-3 125666-75-3
129204-82-6 129536-34-1 129612-52-8
134562-96-2 134599-16-9 141545-81-5,
Hypertrehalosemic hormone 2 (*Polyphaga aegyptiaca*) 142227-33-6
RL: BIOL (Biological study)
(lipid-mobilizing action of, mol. structure in

relation to

LEE ANSWER 38 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBERS: 1993:165564 HCAPLUS
DOCUMENT NUMBER: 118:165564
TITLE: The function of corpus cardiacum peptides in horse flies
AUTHOR(S): Woodring, Joseph; Leprince, Daniel J.
CORPORATE SOURCE: Dep. Zool. Physiol., Louisiana State Univ., Baton Rouge, LA, 70803, USA
SOURCE: Journal of Insect Physiology (1992), 38(10), 775-82
CODEN: JIPPAF; ISSN: 0022-1910
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 125009-46-3 125666-75-3
FL: PFF (Properties)
(hyperglycemic and hyperlipidemic effects of, in horsefly species)

LEE ANSWER 39 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBERS: 1992:3-2-6 HCAPLUS
DOCUMENT NUMBER: 118:28126
TITLE: The pharmacology of the **lipid-mobilizing** response to adipokinetic hormone family peptides in the moth, *Manduca sexta*
AUTHOR(S): Fox, Andrew M.; Reynolds, Stuart E.
CORPORATE SOURCE: Sch. Biol. Sci., Univ. Bath, Bath, BA2 7AY, UK
SOURCE: Journal of Insect Physiology (1991), 37(5), 375-81
CODEN: JIPPAF; ISSN: 0022-1910
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 37933-92-9 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*) 90549-76-1 93208-51-6 93240-39-2
98968-94-6 99886-31-4, Adipokinetic hormone (*Manduca sexta*) 102067-93-6 106018-36-4 113800-65-0
117107-54-7 118673-77-1
FL: RAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); RIOL (Biological study)
(**lipid mobilization** in moth response to)

LEE ANSWER 40 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBERS: 1991:98601 HCAPLUS
DOCUMENT NUMBER: 118:98601
TITLE: Structure-function studies on hypertrehalosemic and adipokinetic hormones: activity of naturally occurring analogs and some N- and C-terminal modified analogs
AUTHOR(S): Gaede, Gerd
CORPORATE SOURCE: Inst. Zool., Heinrich-Heine-Univ., Duesseldorf, Germany
SOURCE: Physiological Entomology (1990), 15(3), 299-316
CODEN: PENTDE; ISSN: 0307-6962
DOCUMENT TYPE: Journal
LANGUAGE: English
IT 37933-92-9 61627-67-6, Adipokinetic hormone I (*Locusta migratoria*) 90549-76-1 93208-51-6 93240-39-2
98968-94-6 99886-31-4, Adipokinetic hormone (*Manduca sexta*) 102067-93-6 106018-36-4 113800-65-0
118673-77-1
FL: PFP (Properties)
(carbohydrates and **lipid mobilization** effect of, in cockroach and grasshopper and locust, structure in relation to)

LEE ANSWER 41 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1991:3710 HCAPLUS
 DOCUMENT NUMBER: 114:3710
 TITLE: Biological effects of synthetic AKH in *Manduca sexta* and estimates of the amount of AKH in corpora cardiaca
 AUTHOR(S): Sieglar, Rolf
 CORPORATE SOURCE: Cent. Insect Sci., Univ. Arizona, Tucson, AZ, 85721, USA
 SOURCE: Archives of Insect Biochemistry and Physiology (1990), 15(2), 111-116
 CODEN: AINPDA; ISSN: 0190-4067
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 99886-31-4, Adipokinetic hormone (*Manduca sexta*)
 FL: BIOL (Biological study)
 (glycogen phosphorylase activation in lipid mobilization in the same hornworm induction by)

12. ANSWER 42 OF 60 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1990:3813 HCAPLUS
 DOCUMENT NUMBER: 114:22:174
 TITLE: Adipokinetic hormone controls lipid metabolism in adults and carbohydrate metabolism in larvae of *Manduca sexta*
 AUTHOR(S): Sieglar, Rolf; Eckart, Klaus; Law, John H.
 CORPORATE SOURCE: Cent. Insect Sci., Univ. Arizona, Tucson, AZ, 85721, USA
 SOURCE: Peptides (New York, NY, United States) (1990), 11(5), 1137-40
 CODEN: PEPTDI; ISSN: 0196-9781
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 99886-31-4, Adipokinetic hormone (*Manduca sexta*)
 FL: BIOL (Biological study)
 (carbohydrate metab. by insect larvae and lipid metab. by insect adult regulation by)

13. ANSWER 43 OF 61 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1991:149143 HCAPLUS
 DOCUMENT NUMBER: 113:149143
 TITLE: The fruitfly *Drosophila melanogaster* contains a novel charged adipokinetic-hormone-family peptide
 AUTHOR(S): Schaffer, Martin H.; Noyes, B. E.; Slaughter, Clive A.; Thorne, Gareth C.; Gaskell, Simon J.
 CORPORATE SOURCE: Howard Hughes Med. Inst., Univ. Texas, Dallas, TX, 75235-9870, USA
 SOURCE: Biochemical Journal (1990), 269(2), 513-20
 CODEN: BJJOAK; ISSN: 0596-8273
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 129204-82-6, DAKH
 FL: BIOL (Biological study)
 (of fruitfly, isolation and sequence of)

14. ANSWER 44 OF 60 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1990:312712 HCAPLUS
 DOCUMENT NUMBER: 114:112712
 TITLE: Isolation and structure of a novel charged member of the red-pigment-concentrating hormone-adipokinetic hormone family of peptides isolated from the corpora cardiaca of the blowfly *Phormia terraenovae* (Diptera)
 AUTHOR(S): Gaede, Gerd; Wilps, Hans; Kellner, Roland
 CORPORATE SOURCE: Inst. Zool., Heinrich-Heine-Univ., Duesseldorf, D-4000, Germany

SOURCE: Biochemical Journal (1990), 269(2), 309-13
 CODEN: BISOAK; ISSN: 0006-3275
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 129204-82-6
 RL: PEP (Properties)
 (amino acid sequence of)

L22 ANSWER 45 OF 60 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1989:112143 HCAPLUS
 DOCUMENT NUMBER: 119:112143
 TITLE: Adipokinetic hormone **mobilization** of
lipids and carbohydrates in the house cricket,
 Acheta domestica
 AUTHOR(S): Woodring, J. P.; Escameyer, H. W.; Lockwood, J. A.;
 Hammond, A. M.; Gaede, G.
 CORPORATE SOURCE: Dep. Zool. Physiol., Louisiana State Univ., Baton
 Rouge, LA, 70803, USA
 SOURCE: Comparative Biochemistry and Physiology, Part A:
 Molecular & Integrative Physiology (1989), 92A(1),
 65-70
 CODEN: CBPAB5; ISSN: 1300-9629
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 113800-65-0
 RL: BIOL (Biological study)
 (carbohydrate and **lipid mobilization** by house
 cricket response to)

L22 ANSWER 46 OF 60 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1988:163447 HCAPLUS
 DOCUMENT NUMBER: 108:163447
 TITLE: Primary sequence analysis by fast atom bombardment
 mass spectrometry of a peptide with adipokinetic
 activity from the corpora cardiaca of the cricket
 Gryllus bimaculatus
 AUTHOR(S): Gaede, Gerd; Rinehart, Kenneth L.
 CORPORATE SOURCE: Inst. Zool., Univ. Duesseldorf, Duesseldorf, D-4000/1,
 Fed. Rep. Ger.
 SOURCE: Biochemical and Biophysical Research Communications
 (1987), 149(3), 908-14
 CODEN: BBRCA9; ISSN: 0006-291X
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 113800-65-0
 RL: PEP (Properties)
 (amino acid sequence of)

L22 ANSWER 47 OF 60 HCAPLUS COPYRIGHT 2003 ACS
 ACCESSION NUMBER: 1987:550657 HCAPLUS
 DOCUMENT NUMBER: 107:550657
 TITLE: Determination of locust AKH-I by radioimmunoassay and
 the identification of an AKH-like factor in the locust
 brain
 AUTHOR(S): Moshitzky, Enina; Yamashiro, D.; Stuve, Laura;
 Ramachandran, J.; Applebaum, S. W.
 CORPORATE SOURCE: Fac. Agric., Hebrew Univ., Rehovot, 76-100, Israel
 SOURCE: Insect Biochemistry (1987), 17(5), 765-9
 CODEN: ISBICAN; ISSN: 0020-1790
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 61627-67-6, Adipokinetic hormone I (Locusta migratoria)
 RL: ANT (Analyte); ANST (Analytical study)

(detn. of, in locust by RIA)

IT 110518-71-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and radioiodination of)

IT 110518-72-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and reaction with bovine serum albumin)

IT 110518-70-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (prepn. and reaction with succinimidyldihydroxyphenylpropionate)

L22 ANSWER 49 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1987:44010 HCAPLUS
 DOCUMENT NUMBER: 111:6610
 TITLE: Breakdown of locust adipokinetic hormone I by
 Malpighian tubules of Schistocerca gregaria
 AUTHOR(S): Siegart, Karl J.; Hardue, William
 CORPORATE SOURCE: Dep. Biol., Univ. Aberdeen, Aberdeen, AB9 2TN, UK
 SOURCE: Insect Biochemistry (1987), 17(5), 705-10
 CODEN: ISBTAN; ISSN: 0020-1790
 DOCUMENT TYPE: Journal
 LANGUAGE: English

IT 61627-67-6
 RL: BPE (Biological process); FSU (Biological study, unclassified); BIOL
 (Biological study); EPOC (Process)
 (metab. of, by Malpighian tubule of grasshopper)

L21 ANSWER 49 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1987:50171 HCAPLUS
 DOCUMENT NUMBER: 126:50171
 TITLE: Octopamine and cyclic AMP mediate release of
 adipokinetic hormone I and II from isolated locust
 neuroendocrine tissue
 AUTHOR(S): Pannabecker, Tam; Orchard, Ian
 CORPORATE SOURCE: Dep. Biol., Univ. Toronto, Toronto, ON, M5S 1A1, Can.
 SOURCE: Molecular and Cellular Endocrinology (1986), 48(2-3),
 153-9
 CODEN: MCEND6; ISSN: 0303-7207
 DOCUMENT TYPE: Journal
 LANGUAGE: English

IT 61627-67-6
 RL: BIOL (Biological study)
 (release of, by corpus cardiacum of grasshopper, cAMP and octopamine
 mediation of)

L21 ANSWER 50 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1986:550114 HCAPLUS
 DOCUMENT NUMBER: 105:150114
 TITLE: Hormonal control of fat-body **glycogen**
mobilization for locust flight
 AUTHOR(S): Van Marrewijk, W. J. A.; Van den Broek, A. T. M.;
 Reenackers, A. M. T.
 CORPORATE SOURCE: Dep. Exp. Zool., Univ. Utrecht, Utrecht, 3508 TB,
 Neth.
 SOURCE: General and Comparative Endocrinology (1986), 64(1),
 136-42
 CODEN: GCENAS; ISSN: 0016-6480
 DOCUMENT TYPE: Journal
 LANGUAGE: English

IT 61627-67-6

RL: BIOL (Biological study)
(phosphorylase of fat body stimulation by, in flight in grasshopper)

L22 ANSWER 51 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1986:481384 HCAPLUS

DOCUMENT NUMBER: 105:57384

TITLE: Strategies for the isolation of insect peptides

AUTHOR(S): Murray, W.; Morgan, P. J.; Siegert, R. J.

CORPORATE SOURCE: Dep. Biol., Univ. Aberdeen, Aberdeen, AB9 2TN, UK

SOURCE: Peptides (New York, NY, United States) (1985),
4(Suppl. 2), 47-10

CODEN: PEIDJ; ISSN: 0196-9781

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 98968-94-6

EL: ANST (Analytical study)
(sepn. and properties of, of Locusta)

IT 90549-76-1

EL: ANST (Analytical study)
(sepn. and properties of, of Schistocerca)

L22 ANSWER 52 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1986:489782 HCAPLUS

DOCUMENT NUMBER: 105:39782

TITLE: Relative adipokinetic activities of members of the
adipokinetic hormone/red pigment concentrating hormone
family

AUTHOR(S): Goldsworthy, Graham J.; Mellison, Kathryn; Wheeler,
Glen R.; Gaede, Gerd

CORPORATE SOURCE: Dep. Biol., Univ. Hull, North Humberside, HU6 7RX, UK

SOURCE: Journal of Insect Physiology (1986), 32(5), 433-8

CODEN: JIPHAF; ISSN: 0022-1910

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 37933-92-9 61627-67-6 93208-51-6

93240-39-2 98968-94-6 102067-93-6

RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); BIOL (Biological study)
(lipid mobilization in grasshopper response to)

L22 ANSWER 53 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1986:181944 HCAPLUS

DOCUMENT NUMBER: 104:181944

TITLE: Isolation and primary structure of a peptide from the
corpora cardiaca of Heliothis zea with adipokinetic
activity

AUTHOR(S): Jaffe, Howard; Raina, Asnok K.; Riley, Clark T.;
Fraser, Blair A.; Holman, G. Mark; Wagner, Feneo M.;

Ridgway, Richard L.; Hayes, Dora K.

CORPORATE SOURCE: Agric. Environ. Qual. Inst., Agric. Res. Serv.,

Beltsville, MD, 20705, USA

SOURCE: Biochemical and Biophysical Research Communications
(1986), 135(2), 622-8

CODEN: BBFCA9; ISSN: 0006-291X

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 99886-31-4

EL: PRP (Properties)
(amino acid sequence of)

L21 ANSWER 54 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1984:571710 HCAPLUS

DOCUMENT NUMBER: 101:171710

TITLE: Preparation of a specifically tritiated locust adipokinetic hormone analog with full biological potency

AUTHOR(S): Muramoto, Koji; Ramachandran, J.; Moshitzky, Phina; Applebaum, S. W.

CORPORATE SOURCE: Dep. Biochem. Biophys., Univ. California, San Francisco, CA, USA

SOURCE: International Journal of Peptide & Protein Research (1984), 23(4), 443-6
CODEN: IJPEPC; ISSN: 0367-8377

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 92387-94-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(iodination of)

IT 68016-54-6DP, tritiated analog 92387-96-7P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and lipid-mobilizing activity of)

IT 92387-95-6P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. and tritiation of)

L21 ANSWER 55 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1984:469713 HCAPLUS

DOCUMENT NUMBER: 101:69713

TITLE: Actions of synthetic adipokinetic hormone and related peptide analogs on dispersed locust fat body cell preparations

AUTHOR(S): Asher, Carol; Moshitzky, Phina; Ramachandran, J.; Applebaum, Shalom W.

CORPORATE SOURCE: Fac. Agric., Hebrew Univ., Rehovot, 76100, Israel

SOURCE: Insect Neurochem. Neurophysiol., [Proc. Int. Conf.] (1984), Meeting Date 1983, 313-15. Editor(s): Berkovec, Alexej E.; Kelly, Thomas J. Plenum: New York, N. Y.
CODEN: INTRAF

DOCUMENT TYPE: Conference

LANGUAGE: English

IT 61627-67-6 90549-75-0 90549-76-1
91235-41-5 91254-46-5
RL: BIOL (Biological study)
(locust fat body cell preps. response to)

L22 ANSWER 56 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1984:407616 HCAPLUS

DOCUMENT NUMBER: 101:7616

TITLE: Synthesis of shrimp red pigment-concentrating hormone analogs and their biological activity in locusts

AUTHOR(S): Yamashiro, Donald; Applebaum, Shalom W.; Li, Chch Hao

CORPORATE SOURCE: Horm. Res. Lab., Univ. California, San Francisco, CA, USA

SOURCE: International Journal of Peptide & Protein Research (1984), 23(1), 39-41
CODEN: IJPEPC; ISSN: 0367-8377

DOCUMENT TYPE: Journal

LANGUAGE: English

IT 90549-75-0P 90549-76-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and locust lipid-mobilizing activity of)

L22 ANSWER 57 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1981:481507 HCAPLUS

DOCUMENT NUMBER: 95:81507
 TITLE: Solid-phase synthesis of locust adipokinetic hormone
 AUTHOR(S): Yamashiro, Donald; Applebaum, Shalom W.; Birk, Yehudith; Li, Choh Hao
 CORPORATE SOURCE: Hormone Res. Lab., Univ. California, San Francisco, CA, USA
 SOURCE: International Journal of Peptide & Protein Research 1981, 17(5), 546-8
 CODEN: IJPEOC; ISSN: 0367-8377
 DOCUMENT TYPE: Journal
 LANGUAGE: English

IT 61627-67-6P

FL: SPN (Synthetic preparation); PREP (Preparation)
 (total synthesis of, by solid phase method)

LC1 ANSWER 58 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1979:11492 HCAPLUS
 DOCUMENT NUMBER: 6:16447
 TITLE: Structure and metabolism of adipokinetic hormone
 AUTHOR(S): Hordge, William; Stone, Judith V.
 CORPORATE SOURCE: Dep. Zool., Imperial Coll., London, UK
 SOURCE: Comp. Endocrinol., Proc. Int. Symp., 8th (1978), 1-7-91. Editor(s): Gaillard, Pieter C.; Boer, H. H. Elsevier: Amsterdam, Neth.
 CODEN: CRYAUC

DOCUMENT TYPE: Conference
 LANGUAGE: English

IT 37933-92-9 68016-50-2 68016-54-6

68016-55-7 68016-56-8 68016-57-9

68016-61-5

FL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); EIDL (Biological study)
 (adipokinetic activity of)

LC1 ANSWER 59 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1978:594377 HCAPLUS
 DOCUMENT NUMBER: 69:194177
 TITLE: Structure-activity relationships for the lipid-mobilizing action of locust adipokinetic hormone. Synthesis and activity of a series of hormone analogs
 AUTHOR(S): Stone, Judith V.; Hordge, William; Broomfield, Colin E.; Hardy, Paul M.
 CORPORATE SOURCE: Dep. Zool., Imperial Coll., London, UK
 SOURCE: European Journal of Biochemistry (1978), 89(1), 195-200
 CODEN: EJB0A1; ISSN: 0014-2956

DOCUMENT TYPE: Journal
 LANGUAGE: English

IT 61627-67-6

FL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); EIDL (Biological study)
 (lipid-mobilizing activity of, in grasshopper)

IT 37933-92-9P 68016-50-2P 68016-54-6P

68016-55-7P 68016-56-8P 68016-57-9P

68016-61-5P

FL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and adipokinetic hormone activity of, in grasshopper)

LC1 ANSWER 60 OF 60 HCAPLUS COPYRIGHT 2003 ACS

ACCESSION NUMBER: 1978:454997 HCAPLUS
 DOCUMENT NUMBER: 89:54947
 TITLE: The evolution of arthropod neurohormones

AUTHOR(S): Mordue, W.; Stone, Judith V.
 CORPORATE SOURCE: Dep. Zool., Imp. Coll., London, UK
 SOURCE: Journal of Physiology (Cambridge, United Kingdom)
 (1973), 278, 31P-32P
 COLEN: JPHYA7; ISSN: 0022-8751
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 IT 37933-92-9
 EL: BICL (Biological study)
 (cf prawns, locust response to, evolution in relation to)

= select hit rn l22 1-60
 E1 THROUGH E112 ASSIGNED

= fil reg
 FILE 'REGISTRY' ENTERED AT 17:32:11 ON 04 APR 2003
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 DICTIONARY FILE UPDATES: 3 APR 2003 HIGHEST RN 501644-38-8

TSCA INFORMATION NOW CURRENT THROUGH MAY 20, 2002

Please note that search-term pricing does apply when
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Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. See HELP
 PROPERTIES for more information. See STNote 27, Searching Properties
 in the CAS Registry File, for complete details:
<http://www.cas.org/ONLINE/STN/STNOTES/stnotes27.pdf>

= d his 124

(FILE 'HCAPLUS' ENTERED AT 17:31:44 ON 04 APR 2003)
 SELECT HIT RN L22 1-60

FILE 'REGISTRY' ENTERED AT 17:32:35 ON 04 APR 2003
 L24 102 S E1-E102

= d reg 124 1-102

1	RN	304874-27-9	REGISTRY
2	RN	304869-21-4	REGISTRY
3	RN	304869-17-8	REGISTRY
4	RN	304869-13-4	REGISTRY
5	RN	304869-06-5	REGISTRY
6	RN	304868-86-8	REGISTRY
7	RN	304868-84-6	REGISTRY
8	RN	304868-80-2	REGISTRY
9	RN	304868-65-3	REGISTRY

10	FN	304868-63-1	REGISTRY
11	FN	304868-58-4	REGISTRY
12	FN	292167-15-8	REGISTRY
13	FN	224573-17-5	REGISTRY
14	FN	216259-80-2	REGISTRY
15	FN	211030-29-4	REGISTRY
16	FN	191860-71-6	REGISTRY
17	FN	191860-70-5	REGISTRY
18	FN	191860-69-2	REGISTRY
19	FN	191860-68-1	REGISTRY
20	FN	191860-67-0	REGISTRY
21	FN	191860-66-9	REGISTRY
22	FN	191860-65-8	REGISTRY
23	FN	191860-64-7	REGISTRY
24	FN	191860-63-6	REGISTRY
25	FN	191860-62-5	REGISTRY
26	FN	191860-61-4	REGISTRY
27	FN	191860-60-3	REGISTRY
28	FN	191860-59-0	REGISTRY
29	FN	191860-58-9	REGISTRY
30	FN	191860-57-8	REGISTRY
31	FN	191860-56-7	REGISTRY
32	FN	191860-55-6	REGISTRY
33	FN	191860-52-3	REGISTRY
34	FN	186825-53-6	REGISTRY
35	FN	186144-10-5	REGISTRY
36	FN	186082-75-7	REGISTRY
37	FN	186082-74-6	REGISTRY
38	FN	186082-73-5	REGISTRY
39	FN	186082-71-3	REGISTRY
40	FN	186082-66-6	REGISTRY
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43	FN	186082-61-1	REGISTRY
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46	FN	186020-59-7	REGISTRY
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58	FN	161235-27-4	REGISTRY
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60	FN	161235-25-2	REGISTRY
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62	FN	157568-00-8	REGISTRY
63	FN	154512-22-8	REGISTRY
64	FN	142227-33-6	REGISTRY
65	FN	141545-81-5	REGISTRY
66	FN	134599-16-9	REGISTRY
67	FN	134562-96-2	REGISTRY
68	FN	133156-05-5	REGISTRY
69	FN	129612-52-8	REGISTRY
70	FN	129536-34-1	REGISTRY
71	FN	129204-82-6	REGISTRY
72	FN	125666-75-3	REGISTRY

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73      FN  125009-46-3  REGISTRY
74      FN  122417-55-4  REGISTRY
75      FN  118673-77-1  REGISTRY
76      FN  117107-54-7  REGISTRY
77      FN  113800-65-0  REGISTRY
DE 211030-28-3
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79      FN  110518-72-4  REGISTRY
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83      FN  102067-93-6  REGISTRY
84      FN  99886-31-4  REGISTRY
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86      FN  93240-39-2  REGISTRY
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89      FN  92387-95-6  REGISTRY
90      FN  92387-94-5  REGISTRY
91      FN  91254-46-5  REGISTRY
92      FN  91235-41-5  REGISTRY
93      FN  90549-76-1  REGISTRY
94      FN  90549-75-0  REGISTRY
95      FN  68016-61-5  REGISTRY
96      FN  68016-57-9  REGISTRY
97      FN  68016-56-8  REGISTRY
98      FN  68016-55-7  REGISTRY
99      FN  68016-54-6  REGISTRY
100     FN  68016-50-2  REGISTRY
101     FN  61627-67-6  REGISTRY
DE 128315-55-9
102     FN  37933-92-9  REGISTRY

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=> d his 126

(FILE 'REGISTRY' ENTERED AT 17:32:35 ON 04 APR 2003)

L26 102 S L1 AND L24

=>

=>

=> d .seq 126 1 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 102

L26 ANSWER 1 OF 102 REGISTRY COPYRIGHT 2003 ACS

FN 304874-27-9 REGISTRY

CN L-Threoninamide, 5-oxo-L-prolyl-L-leucyl-L-asparaginyl-L-phenylalanyl-L-threonyl-L-prolyl-L-asparaginyl-L-tryptophyl-2-methylalanyl- (9CI) (CA INDEX NAME)

NTE modified

type	location	description
terminal mod.	Thr-10	C-terminal amide
uncommon	Glp-1	-
uncommon	Aib-9	-

SQL 10
RN 304874-27-9 REGISTRY

SEQ 1 XLNFTPNWXT
=====

HITS AT: 2-8

REFERENCE 1: 133:347529

136 ANSWER 10 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 304868-63-1 REGISTRY

CN L-Threoninamide, 5-oxo-L-prolyl-L-leucyl-L-asparaginyl-L-phenylalanyl-L-threonyl-L-prolyl-L-asparaginyl-L-tryptophyl-L-lysyl- (9CI) (CA INDEX NAME)

NTE modified

type	location	description
terminal mod.	Thr-10	C-terminal amide
uncommon	Glp-1	-

SQL 11
RN 304868-63-1 REGISTRY

SEQ 1 XLNFTPNWXT
=====

HITS AT: 2-8

REFERENCE 1: 133:347529

136 ANSWER 15 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 211030-29-4 REGISTRY

CN 2-10-Hypertrehalosemic hormone II (Carausius morosus) (9CI) (CA INDEX NAME)

NTE modified

type	location	description
terminal mod.	Thr-9	C-terminal amide

SQL 9
RN 211030-29-4 REGISTRY

SEQ 1 LTFTPNWGT
=====

HITS AT: 1-7

REFERENCE 1: 129:158115

136 ANSWER 20 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 191860-67-0 REGISTRY

CN 2-10-Adipokinetic hormone I (Locusta migratoria), N-[6-[[6-[[6-(acetyl-amino)-1-oxohexyl]amino]-1-oxohexyl]amino]-1-oxohexyl]- (9CI) (CA INDEX NAME)

NTE modified

type	location	description
terminal mod.	Gaa-1	N-acetyl
terminal mod.	Thr-12	C-terminal amide
uncommon	Gaa-1	-
uncommon	Gaa-2	-

uncommon Qaa-3 - -

SQL 12

RN 191860-67-0 REGISTRY

SEQ 1 XXXLNFTFNW GT

=====

HITS AT: 4-10

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 127:78894

L26 ANSWER 15 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 191860-62-5 REGISTRY

CN 2-10-Adipokinetic hormone I (Locusta migratoria), N-[6-[(6-amino-1-oxohexyl)amant]-1-oxohexyl]- (9CI) (CA INDEX NAME)

NTE modified

type	location		description
terminal mod.	Thr-11	-	C-terminal amide
uncommon	Qaa-1	-	-
uncommon	Qaa-2	-	-

SQL 11

RN 191860-62-5 REGISTRY

SEQ 1 XXXLNFTFNWG T

=====

HITS AT: 3-9

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 127:78894

L26 ANSWER 30 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 191860-57-8 REGISTRY

CN Adipokinetic hormone I (Locusta migratoria), 1-(N-acetyl-L-alanine)- (9CI) (CA INDEX NAME)

NTE modified

type	location		description
terminal mod.	Ala-1	-	N-acetyl
terminal mod.	Thr-10	-	C-terminal amide

SQL 10

RN 191860-57-8 REGISTRY

SEQ 1 ALNFTPNWGT

=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 127:78894

L26 ANSWER 35 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 186144-10-5 REGISTRY

CN 2-10-Adipokinetic hormone I (Locusta migratoria) (9CI) (CA INDEX NAME)

NTE modified

type	location	description
terminal mod.	Thr-9	C-terminal amide

SQL 9
 EN 186144-10-5 REGISTRY

SEQ 1 LNFTPNWGT

HITS AT: 1-7

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 127:78894

REFERENCE 2: 126:11818-

126 ANSWER 40 OF 102 REGISTRY COPYRIGHT 2003 ACS

EN 186082-66-6 REGISTRY

CH Alipokinetin hormone I (Locusta migratoria), 10-(N-phenyl-L-threoninamide)-
 (9CI) (CA INDEX NAME)

NTE modified (modifications unspecified)

type	location	description
uncommon	Glp-1	

SQL 14
 EN 186082-66-6 REGISTRY

SEQ 1 XLNFTPNWGT

HITS AT: 1-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 126:115891

126 ANSWER 45 OF 102 REGISTRY COPYRIGHT 2003 ACS

EN 186020-60-0 REGISTRY

CH L-Tryptophanamide, 5-oxo-L-prolyl-L-phenylalanyl-L-asparaginyl-L-tyrosyl-L-
 seryl-L-prolyl-L-valyl- (9CI) (CA INDEX NAME)

OTHER NAMES:

CH Sed-CC-II

NTE modified

type	location	description
terminal mod.	Trp-8	C-terminal amide
uncommon	Glp-1	

SQL 8
 EN 186020-60-0 REGISTRY

SEQ 1 XFNYSYVW

HITS AT: 2-8

REFERENCE 1: 138:184361

REFERENCE 2: 133:347529

REFERENCE 3: 132:191975

REFERENCE 4: 131:155914

REFERENCE 5: 130:23018

REFERENCE 6: 120:10180

L26 ANSWER 50 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 182749-41-3 REGISTRY

CN Asipokinetic hormone III (*Locusta migratoria*), 8a-glycine-3b-L-threoninamide- (9CI) (CA INDEX NAME)

NTE modified

type	location		description
terminal mod.	Thr-10	-	C-terminal amide
uncommon	Glp-1	-	-

SQL 10

RN 182749-41-3 REGISTRY

SEQ 1 MLNFTHWWGT

=====

HITS AT: 2-8

REFERENCE 1: 133:347029

REFERENCE 2: 127:78929

REFERENCE 3: 125:276551

L26 ANSWER 55 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 161389-37-3 REGISTRY

CN L-Threoninamide, 1-acetyl-L-prolyl-L-seryl-L-phenylalanyl-L-asparaginyl-L-valylglycyl-L-prolyl-L-valyl-L-asparaginyl-L-phenylalanyl-L-seryl-L-prolylglycyl-L-tryptophylglycyl- (9CI) (CA INDEX NAME)

NTE modified

type	location		description
terminal mod.	Pro-1	-	N-acetyl
terminal mod.	Thr-16	-	C-terminal amide

SQL 16

RN 161389-37-3 REGISTRY

SEQ 1 PSFNVGPEVNF SPQWGT

== ==

HITS AT: 8-14

REFERENCE 1: 127:78894

REFERENCE 2: 122:183539

L26 ANSWER 60 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 161235-25-2 REGISTRY

CN 1-9-Adipokinetic hormone I (*Locusta migratoria*), 5-[O-(1,1-dimethylethyl)-L-threonine]- (9CI) (CA INDEX NAME)

NTE modified (modifications unspecified)

type	location		description
uncommon	Glp-1	-	-

modification Thr-5 - 1,1-dimethylethyl<t-Bu>

SQL 3

RN 161235-25-2 REGISTRY

SEQ 1 KLNFTPNWS

=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 122:161345

126 ANSWER 65 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 141545-81-5 REGISTRY

CN Hypertrehalosemic hormone 2 (Polyphaga aegyptiaca) (9CI) (CA INDEX NAME)

OTHER NAMES:

CN L-Tryptophanamide, 8-oxo-L-prolyl-L-isoleucyl-L-threonyl-L-phenylalanyl-L-threonyl-L-prolyl-L-asparaginyl-

NTE modified

type	location	description
terminal mod.	Trp-8	C-terminal amide
uncommon	Glp-1	-

SQL 3

RN 141545-81-5 REGISTRY

SEQ 1 KITFTPNW

=====

HITS AT: 2-3

REFERENCE 1: 135:99204

REFERENCE 2: 133:347520

REFERENCE 3: 119:113874

REFERENCE 4: 117:147542

REFERENCE 5: 116:252459

126 ANSWER 70 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 129536-34-1 REGISTRY

CN Adipokinetic hormone (Libellula auripennis) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
2-L-valine-5-L-threonine-7-L-serine-

OTHER NAMES:

CN L-Tryptophanamide, 5-oxo-L-prolyl-L-valyl-L-asparaginyl-L-phenylalanyl-L-threonyl-L-prolyl-L-seryl-

CN Lia-AKH

NTE modified

type	location	description
terminal mod.	Trp-8	C-terminal amide
uncommon	Glp-1	-

SQL 8

RN 129536-34-1 REGISTRY

SEQ 1 XVNETPSW

HITS AT: 2-8

REFERENCE 1: 135:90204
 REFERENCE 2: 133:347529
 REFERENCE 3: 130:335468
 REFERENCE 4: 130:23013
 REFERENCE 5: 125:136823
 REFERENCE 6: 119:113874
 REFERENCE 7: 117:147542
 REFERENCE 8: 113:140111

136 ANSWER 25 OF 102 REGISTRY COPYRIGHT 2003 ACS

FN 118673-77-1 REGISTRY

CU Neuropeptide Ro I (Romalea microptera corpus cardiacum) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CU Adipokinetic hormone I (Locusta migratoria), 2-L-valine-

OTHER NAMES:

CU L-Threoninamide, 6-pro-L-prolyl-L-valyl-L-asparaginyl-L-phenylalanyl-L-threonyl-L-prolyl-L-asparaginyl-L-tryptophylglycyl-

CU Ro I

CU Rom CC I

NTE modified

type	location	description
terminal mod.	Thr-10	C-terminal amide
uncommon	Glp-1	-

SQL 10

FN 118673-77-1 REGISTRY

SEQ 1 XVNFTPINWGT

HITS AT: 2-8

REFERENCE 1: 135:90104
 REFERENCE 2: 133:347529
 REFERENCE 3: 130:349729
 REFERENCE 4: 130:23018
 REFERENCE 5: 122:134510
 REFERENCE 6: 116:38296
 REFERENCE 7: 116:38246
 REFERENCE 8: 114:226149
 REFERENCE 9: 114:98661

REFERENCE 10: 111:54454

126 ANSWER 80 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 110518-71-3 REGISTRY

CN Adipokinetic hormone I (Locusta migratoria), 1-[N-[3-(4-hydroxyphenyl)-1-oxopropyl]-L-glutamic acid]- (9CI) (CA INDEX NAME)

NTE modified

type	location	description
terminal mod.	Thr-10	C-terminal amide
modification	Glu-1	-(4-hydroxyphenyl) -1-oxopropyl

SQL 10

RN 110518-71-3 REGISTRY

SEQ 1 ENMFEPNWS7

=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 107:150657

126 ANSWER 85 OF 102 REGISTRY COPYRIGHT 2003 ACS

RN 98968-94-6 REGISTRY

CN Adipokinetic hormone II (Locusta migratoria) (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis) 6-L-alanine-

OTHER NAMES:

CN L-Tryptophanamide, 5-oxo-L-prolyl-L-leucyl-L-asparaginyl-L-phenylalanyl-L-seryl-L-alanyl-glycyl-

CN Locust adipokinetic hormone II

CN Lem-AKH-2

CN Lem-AKH-II

NTE modified

type	location	description
terminal mod.	Trp-8	C-terminal amide
uncommon	Glp-1	-

SQL 8

RN 98968-94-6 REGISTRY

SEQ 1 XLNFSAGW

=====

HITS AT: 2-8

REFERENCE 1: 137:335368

REFERENCE 2: 137:44500

REFERENCE 3: 135:90204

REFERENCE 4: 135:31472

REFERENCE 5: 133:347529

REFERENCE 6: 133:14859

REFERENCE 7: 129:258004

REFERENCE 3: 129:159273

REFERENCE 9: 129:158115

REFERENCE 10: 128:59573

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EN 92387-94-5 REGISTRY

CU Chromatophorotropin, red-pigment-concentrating (Pandalus borealis)
4-L-tyrosine-5-L-threonine-7-L-asparagine- (9CI) (CA INDEX NAME)

NTE modified

type	----- location -----	description
terminal mod.	Trp-8	C-terminal amide
uncommon	Glp-1	-

SQL 8

EN 92387-94-5 REGISTRY

SEQ 1 KLNYPINW

=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 101:171710

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EN 68016-61-5 REGISTRY

CU Adipokinetic hormone I (Locusta migratoria), 1-(5-oxo-D-proline)-8-L-tryptophanamide-9-deglycine-10-de-L-threoninamide- (9CI) (CA INDEX NAME)

NTE modified

type	----- location -----	description
terminal mod.	Trp-8	C-terminal amide
uncommon	Glp-1	-

SQL 8

EN 68016-61-5 REGISTRY

SEQ 1 KLNFTPINW

=====

HITS AT: 1-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 90:100492

REFERENCE 2: 89:194277

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EN 68016-50-2 REGISTRY

CU Adipokinetic hormone I (Locusta migratoria), 1-(5-oxo-D-proline)- (9CI)
(CA INDEX NAME)

NTE modified

type	----- location -----	description
terminal mod.	Thr-10	C-terminal amide
uncommon	Glp-1	-

SQL 10
EN 68016-50-2 REGISTRY

SEQ 1 XLNFTPNWST
=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 94:100492

REFERENCE 1: 94:194277

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EN 37933-92-9 REGISTRY

EN Chromatophorotropin, red-pigment-concentrating (Pandalus borealis) (9CI)
(CA INDEX NAME)

OTHER NAMES:

- EN Blanching hormone (Pandalus borealis)
 - EN Chromatophorotropin, red-pigment-concentrating (Cancer magister)
 - EN Chromatophorotropin, red-pigment-concentrating (Carcinus maenas)
 - EN Chromatophorotropin, red-pigment-concentrating (Orconectes limosus)
 - EN Chromatophorotropin, red-pigment-concentrating (Palaemonetes pugio)
 - EN Chromatophorotropin, red-pigment-concentrating (Penaeus japonicus)
 - EN L-Tryptophanamide, 5-oxo-L-prolyl-L-leucyl-L-asparaginyl-L-phenylalanyl-L-seryl-L-prolylglycyl-
 - EN Red pigment-concentrating hormone (Pandalus borealis eyestalk)
 - EN Red pigment-concentrating hormone (Penaeus japonicus)
- NTE modified

type	location	description
terminal mod.	Trp-5	C-terminal amide
uncommon	His-1	-

SQL 8
EN 37933-92-9 REGISTRY

SEQ 1 XLNFSPGW
=====

HITS AT: 2-8

RELATED SEQUENCES AVAILABLE WITH SEQLINK

REFERENCE 1: 137:355368

REFERENCE 2: 136:352836

REFERENCE 3: 135:30204

REFERENCE 4: 133:347519

REFERENCE 5: 131:143195

REFERENCE 6: 130:220644

REFERENCE 7: 129:158115

REFERENCE 8: 128:292920

REFERENCE 9: 127:14761

REFERENCE 10: 125:136823